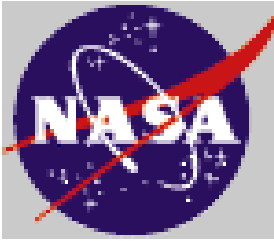


**MSFC SAFETY AND MISSION ASSURANCE OFFICE
FY01 ANNUAL OPERATING AGREEMENT**



**HUMAN EXPLORATION AND DEVELOPMENT
OF SPACE**

MARSHALL SPACE FLIGHT CENTER

SAFETY AND MISSION ASSURANCE OFFICE

OCTOBER 2000

**MSFC SAFETY AND MISSION ASSURANCE OFFICE
FY01 ANNUAL OPERATING AGREEMENT**

DATE_____
Amanda H. Goodson
Director
Safety and Mission Assurance Office

DATE_____
A. G. Stephenson
Director
Marshall Space Flight Center

DATE_____
Frederick D. Gregory
Associate Administrator
Office of Safety and Mission Assurance
NASA Headquarters

DATE_____
Joseph H. Rothenberg
Associate Administrator
Office of Space Flight
NASA Headquarters

MSFC SAFETY AND MISSION ASSURANCE OFFICE FY01 ANNUAL OPERATING AGREEMENT

James M. Ellis
Deputy Director
Safety and Mission Assurance Office

Charles H. Shivers
Manager
Safety, Reliability & Quality Assurance Department

Charles M. Chesser
Manager
Transportation Assurance Department

James E. Hatfield
Manager
Space Cargo Assurance Department

MSFC SAFETY AND MISSION ASSURANCE OFFICE FY01 ANNUAL OPERATING AGREEMENT

Annual Operating Agreement Structure/Purpose

The Marshall Space Flight Center Safety and Mission Assurance Office (S&MA) has produced an Annual Operating Agreement (AOA) for FY01 that contains a summary of accomplishments and safety program status for the prior year. A resource matrix and the associated process sheets that describe activities performed in the fulfillment of established roles and responsibilities have been developed for FY01. Presented herein are the individual S&MA Department AOAs that have been summarized by activities. A single resource matrix was prepared. The summary matrix identifies the major activities performed by each department and the resources that have been allocated to perform the tasks. For each S&MA department there are a function summary sheet and process sheets associated with each identified task/activity. The process sheets describe the task in greater detail, define the product which is an output of the task, identify the customers, define the risk that would be incurred by not performing the task, and provide performance metrics and goals which are reportable to the S&MA Director. Other S&MA functional areas under the cognizance of the Associate Administrator (AA), OSMA, but not under the management cognizance of the MSFC Center S&MA Director, have been identified and are included.

The S&MA organization utilized the identified activities to help define initiatives for the organization. Strategies for achievement of these initiatives/goals and macro metrics to measure performance against the goals were then developed. These, along with the S&MA vision, mission, policy, and principles, are incorporated into this document.

At the Marshall Space Flight Center the Centerwide Resources Planning System, our Collaborative Work Process, provides the vehicle for the S&MA organization to negotiate with its customers regarding workforce requirements, and serves to define their expectations of the services that will be provided. A Collaborative Work Commitment document that defines the tasks and resources required to accomplish the work and signifies the commitments of the Project Managers and the S&MA Offices to provide the resources is the basis for the tasks defined in this Annual Operating Agreement.

**MSFC SAFETY AND MISSION ASSURANCE OFFICE
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15. Space Cargo Assurance Department 94 - 107

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INTRODUCTION

In fulfillment of requirements established by the NASA Headquarters Code Q Human Exploration and Development of Space (HEDS) Assurance Board, this Annual Operating Agreement (AOA) is a Center Safety and Mission Assurance (S&MA) business plan, focused on customers for SMA products and services. This AOA presents the activities that MSFC S&MA plans to accomplish during FY01 and summarizes the estimated human resources necessary to perform them.

During the process of developing the AOA, the MSFC S&MA Office gave careful consideration to the NASA Strategic Plan and the MSFC Implementation Plan. The MSFC S&MA Office vision, mission, policy, and principles for achieving safety initiatives and metrics for FY01 are presented in this document. In addition to task descriptions and estimated required resources, this AOA describes the anticipated products to customers, lists the requirements which drive the tasks, and identifies the risk associated with not performing the tasks.

This AOA is intended to serve as a dynamic management tool which, signed by all parties concerned, documents that the MSFC S&MA organization is planning to target the appropriate level of resources to meet the institutional, program, and project requirements. It establishes at the Center level the resource allocations necessary to meet requirements that have been agreed to in the FY01 MSFC Collaborative Work Commitment planning process and uses metrics for management of the Center's S&MA organization.

This AOA does not include workforce estimates for future emerging work or increased resource needs due to schedule accelerations or schedule recovery efforts.

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FY 00 ACCOMPLISHMENTS

- ✓ Supported four successful Space Shuttle launches.
- ✓ Conducted five Contractor Safety Meeting with the Center Director.
- ✓ Supported successful firing of the Fastrac Engine.
- ✓ Performed Shuttle reliability improvement analysis for the SSME Advanced Health Monitoring System.
- ✓ Supported X-40A testing at DFRC.
- ✓ Supported Shuttle Program Process Control Focus Group.
- ✓ Supported Space Station Alternate Propulsion Module Team.
- ✓ Supported Venture Star/X-33 Red Team Review.
- ✓ Provided key support to the Shuttle launch plume dissipation study to ensure public safety.
- ✓ Chaired audits and technical interchange meetings on ET and SSME/AT to resolve NDE issues.
- ✓ Implemented SRB S&MA transition.
- ✓ Supported six in-house MSFC Payload Safety Readiness Review Board.
- ✓ Successfully completed five JSC/KSC Payload Safety Reviews.
- ✓ Supported NEQA at Pratt & Whitney on SSME/AT.
- ✓ Supported Block II Engine DCR at Pratt & Whitney.
- ✓ Placed on line a new Web-based safety certification database that allows users to view the status of their certification on the Web. The database automatically notifies users that their certification is about to expire.
- ✓ Supported five major ISS critical moves.
- ✓ Supported a successful Safety Day.

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FY00 Accomplishments (cont'd)

- ✓ Updated all Safety documents and included them in MSFC's ISO 9000 DCB.
- ✓ Assisted in Fredricksburg High School's sounding rocket launch at White Sands.
- ✓ As-Built Configuration Status System was completed and is operational.
- ✓ Completed Supervisor Safety Web page for deployment in early FY 01.
- ✓ Conducted 13 Continuous Risk Management classes – 215 students.
- ✓ Added five certified CRM trainers to the MSFC Cadre and one Trainer Certifying Official.
- ✓ Organized Voluntary Protection Program Star Certification kickoff.
- ✓ Administered the monthly Area and Central Safety, Health, and Environmental Committee meetings.
- ✓ Developed, coordinated, and provided Area/Building Manager training periodically – three sessions.
- ✓ Implemented S&MA Radar concept to status S&MA processes in projects and activities.
- ✓ Developed Safety Communication Plan and led MSFC Safety Communications Team.
- ✓ Implemented new weekly Safety, Health, and Environmental Highlights Bulletin – 38 since January 10, 2000.
- ✓ Implemented improved Mishap Reporting System.
- ✓ Completed DuPont Safety Training for over 2000 civil service employees.
- ✓ Conducted 280 Annual Facility Inspections/Safety Surveys.
- ✓ Prepared 50 Hazard Analyses for Operations/Facilities.
- ✓ Supported Operational Readiness Inspections for Hazards Operations/Facilities.
- ✓ Upgraded Safety Concerns Reporting system (SCRS).

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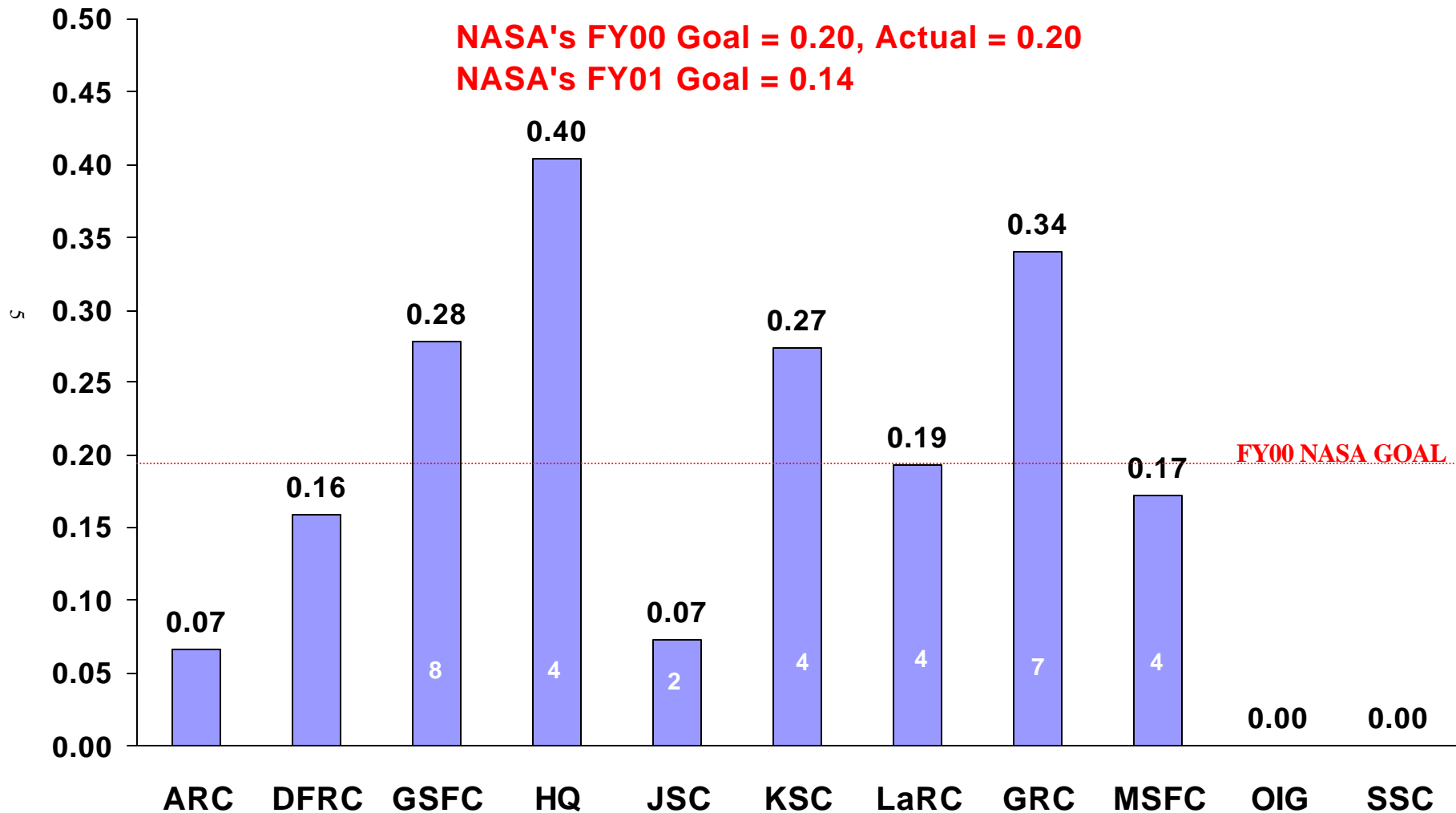
- ✓ Initiated two new S&MA recognition awards – Safety Excellence and S&MA Superstar.

FY00 Accomplishments (cont'd)

- ✓ Coordinated Center ISO registration activities/audits, including 17 internal and 2 recertification audits.
- ✓ Provided explosive safety advice during clean-up of excavated ordnance at MSFC.
- ✓ Hosted GIDEP Workshop at MSFC for local Government agencies and contractors.

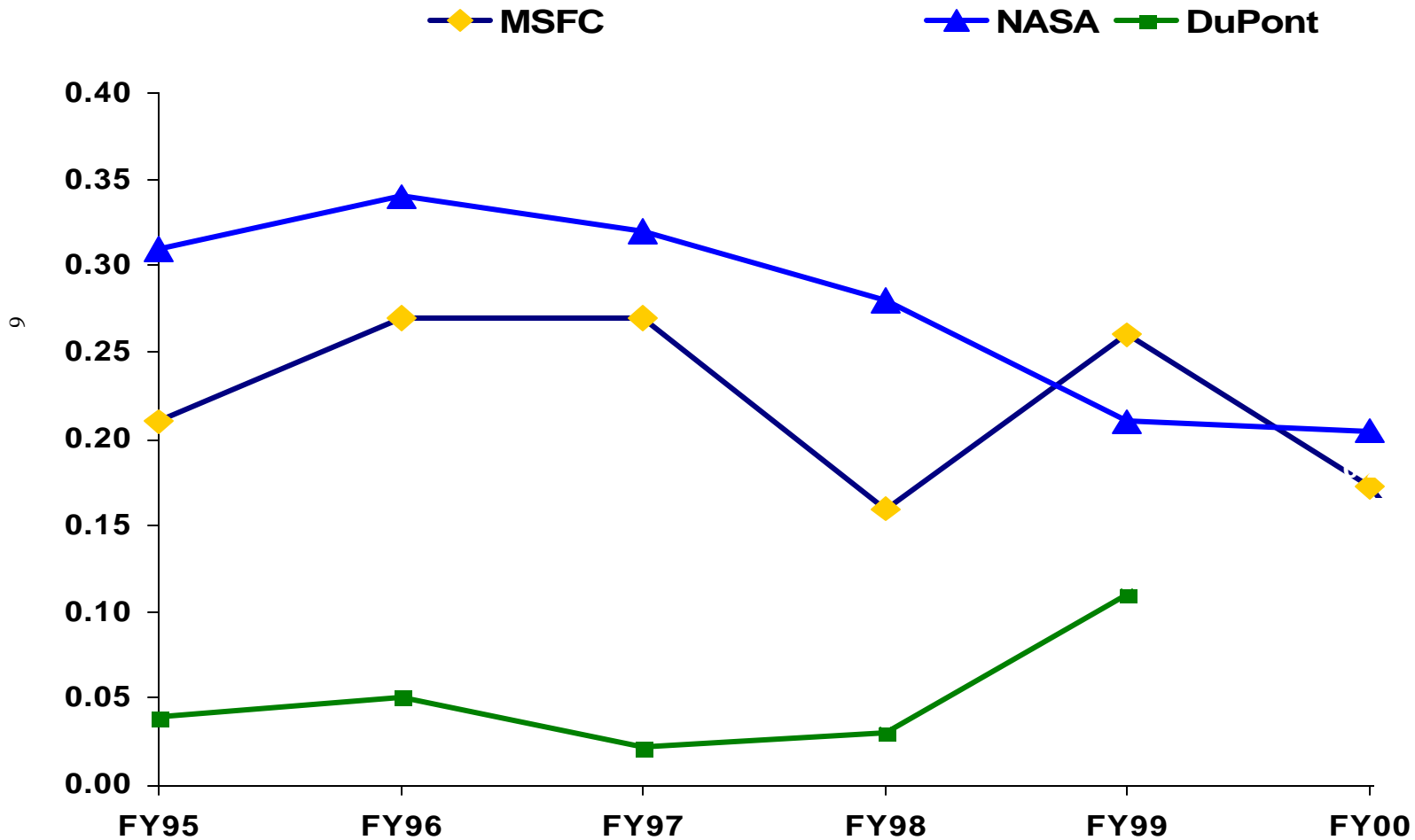
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FY2000 NASA Reportable Lost-Time Injury Rates



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MSFC Lost Time Rates Vs. NASA and DuPont



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MSFC FY00 Lost-Time Mishaps

FY00: 13 Lost Time Mishaps with 34 Lost Days

FY99: 17 Lost Time Mishaps with 240 Lost Days

08/01/00 – Employee fell in ISS Airlock Module, hitting head - 3 Lost Days**

07/17/00 – Moved desk, causing a lumbar strain – 6 Lost Days, 40 restricted days

07/13/00 – Flexible-hose failed on high pressure gaseous helium trailer, hose struck employee on arm – 3 Lost Days

07/12/00 – Ladder shifted, causing employee to reach quickly to catch balance, straining back muscle – 1 Lost Day*

03/16/00 – Injured back in automobile accident – 1 Lost Day*

03/02/00 – Fell through raised floor opening, causing laceration to hand – 1 Lost Day

02/07/00 – Injured back while working on stool for extended period of time – 3 Lost Days

01/25/00 – Fell while ascending stairs, breaking finger – 8 Lost Days*

01/18/00 – Reaching to shelf above desk, sprained back – 1 Lost day*

11/30/99 – Slipped on wet leaves, spraining ankle – 2 Lost Days

11/24/99 – Allergic reaction to ant bite – 1 lost day

10/29/99 – Pulled muscle in back while moving file cabinet – 2 Lost Days

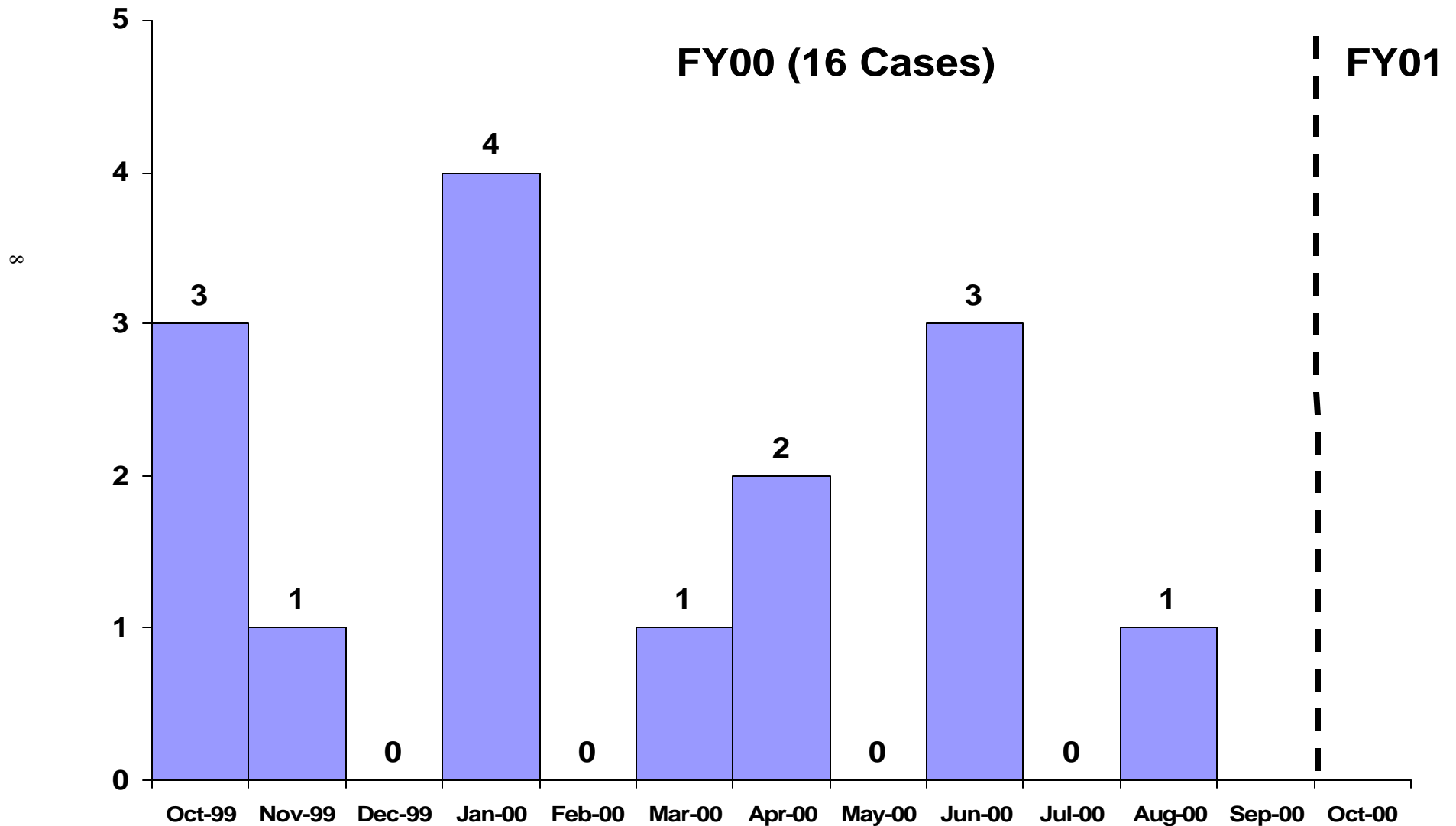
10/27/99 – Struck on knee by object thrown by power trimmer – 2 Lost Days

***MSFC Civil Service**

****DCMC Civil Service**

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FY 2000 Workers' Compensation Report



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MSFC FY00 Workers' Comp Cases

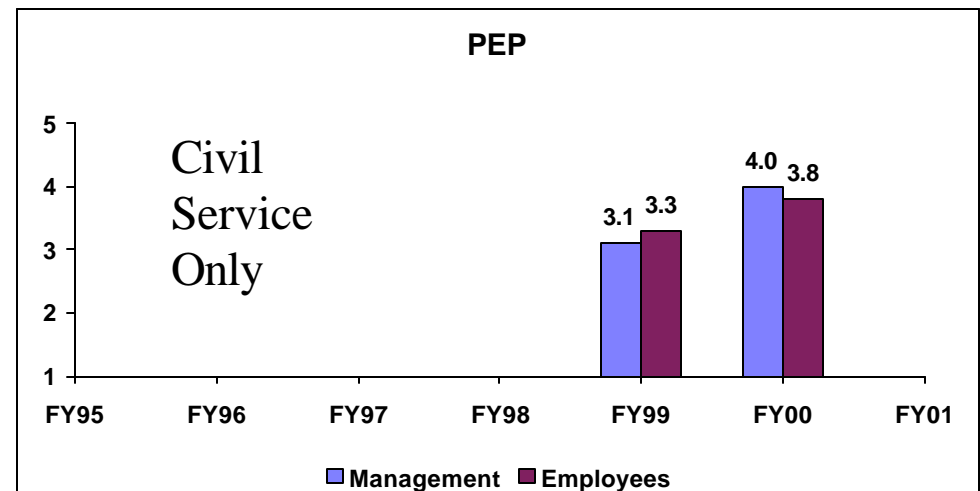
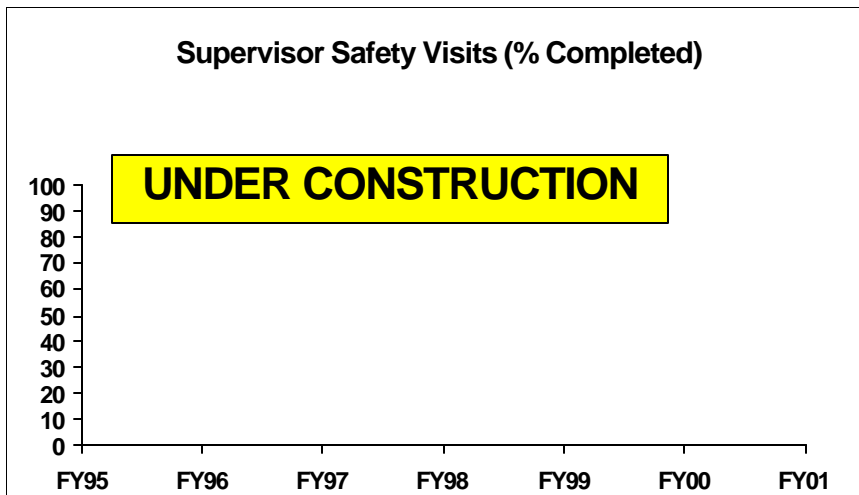
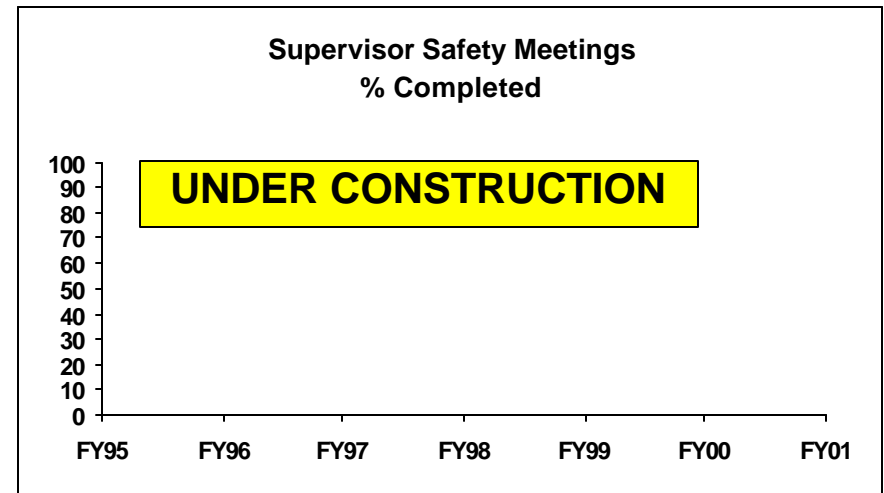
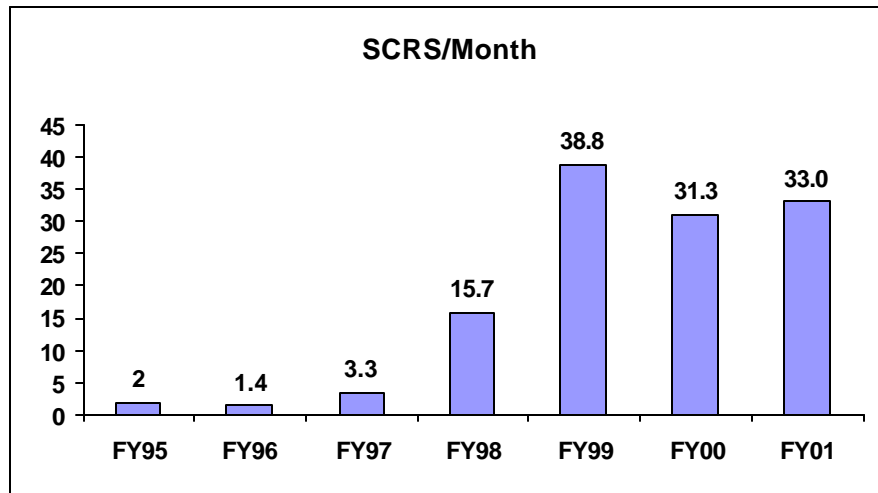
<u>Date of Injury</u>	<u>Cause Of Injury</u>	<u>Injury</u>
09/22/1999	Insect bite Right leg	
09/24/1999	Ergonomics Carpal Tunnel/denied	
09/28/1999	Fell in parking lot Right elbow	
10/07/1999	Ergonomics Tendonitis right wrist	
10/15/1999	Moving boxes under desk	Right finger strain
10/27/1999	Tripped & fell on sidewalk	Fracture Finger/openface Wound
10/04/1995	Lifted heavy test apparatus	Lower back herniated disc
04/04/1977	Airplane crash - Third Party Settlement	Death benefits
01/07/2000	Struck hand on piece of metal	Cut finger
01/12/2000	Moving gas cylinder & lid slid off	Cut hand
01/18/2000	Reached up to shelf above desk	Lower back strain
01/25/2000	Fell going up stairs	Fracture Right 4th Finger
02/04/2000	Ergonomics Right wrist carpal tunnel	
04/03/2000	Fell going up stairs	Left shoulder sprain
04/04/2000	Moving supplies/punctured stomach w/xacto knife	Puncture wound abdomen
04/25/2000	Playing basketball	Fractured finger
04/27/1999	Automobile Accident - Third Party	Left hand contusion
05/25/1993	Recurrence of Carpal Tunnel	Carpal tunnel
05/16/2000	Back pain while TDY	Lower back strain
06/15/1999	Automobile Accident - Third Party	Back strain
01/01/1969	Retired employee filed/ Exposure to loud noise	Loss of hearing/hearing aids
06/07/2000	Top box of stack of four fell on foot	Fractured right great toe
03/23/1971	Fall (Back) (long term claim)	Survivor benefits
10/1/1997	Ergonomics Carpel tunnel	
07/12/2000	Ladder slipped	Lower back strain
08/02/2000	Foreign object into left eye	Left eye
01/07/1975	Recurrence of disability (long term)	Right inguinal hernia

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MSFC Team* Metrics - Leading Indicators

* MSFC's Team is the Civil Service and the On-site Contractors

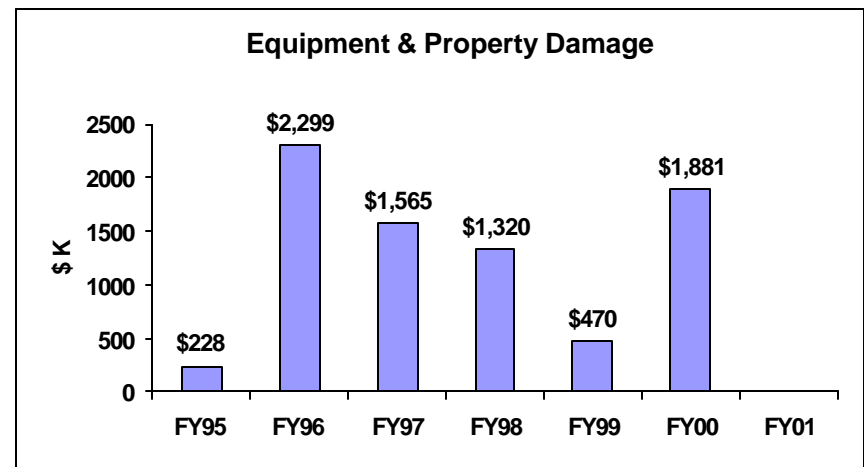
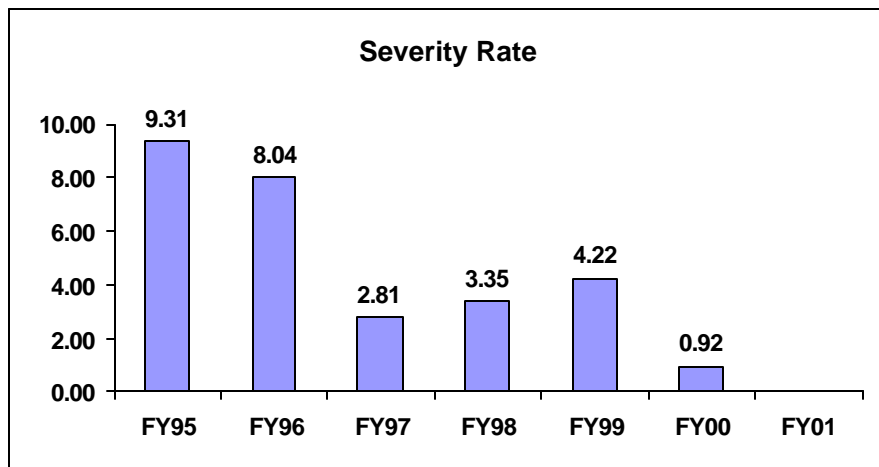
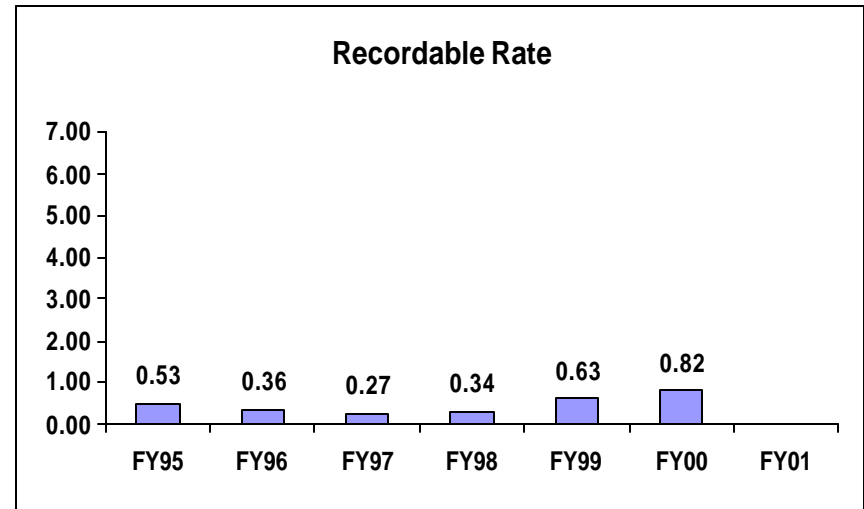
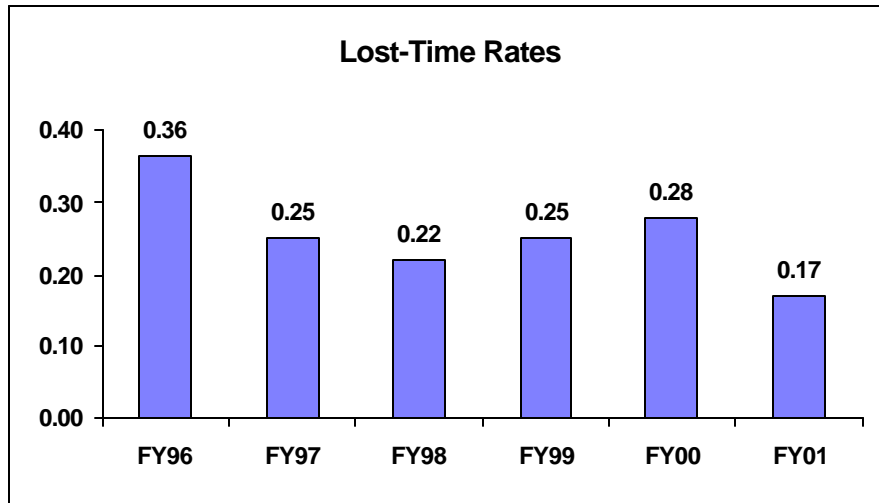
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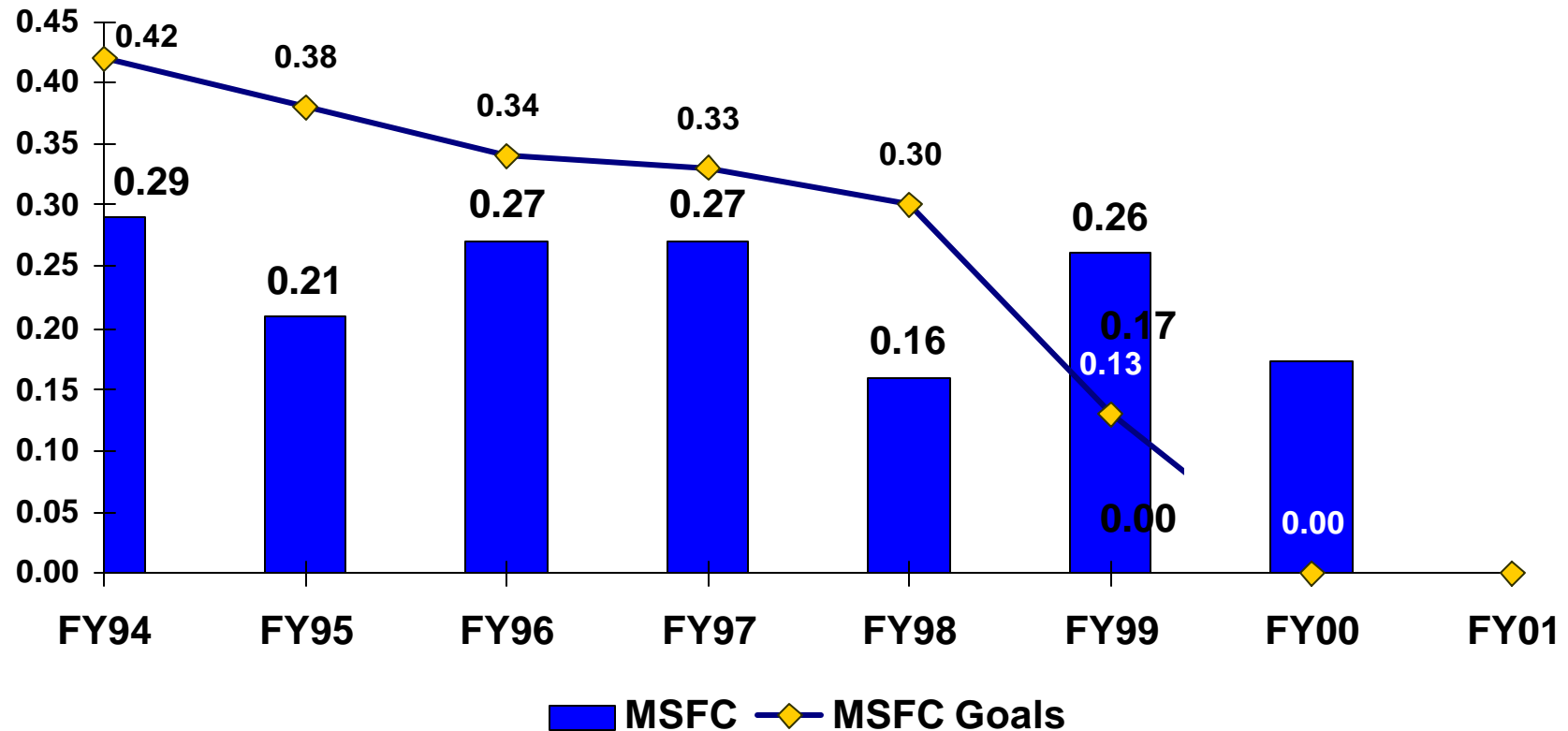
MSFC Team* Metrics - Trailing Indicators

* MSFC's Team is the Civil Service and the On-site Contractors



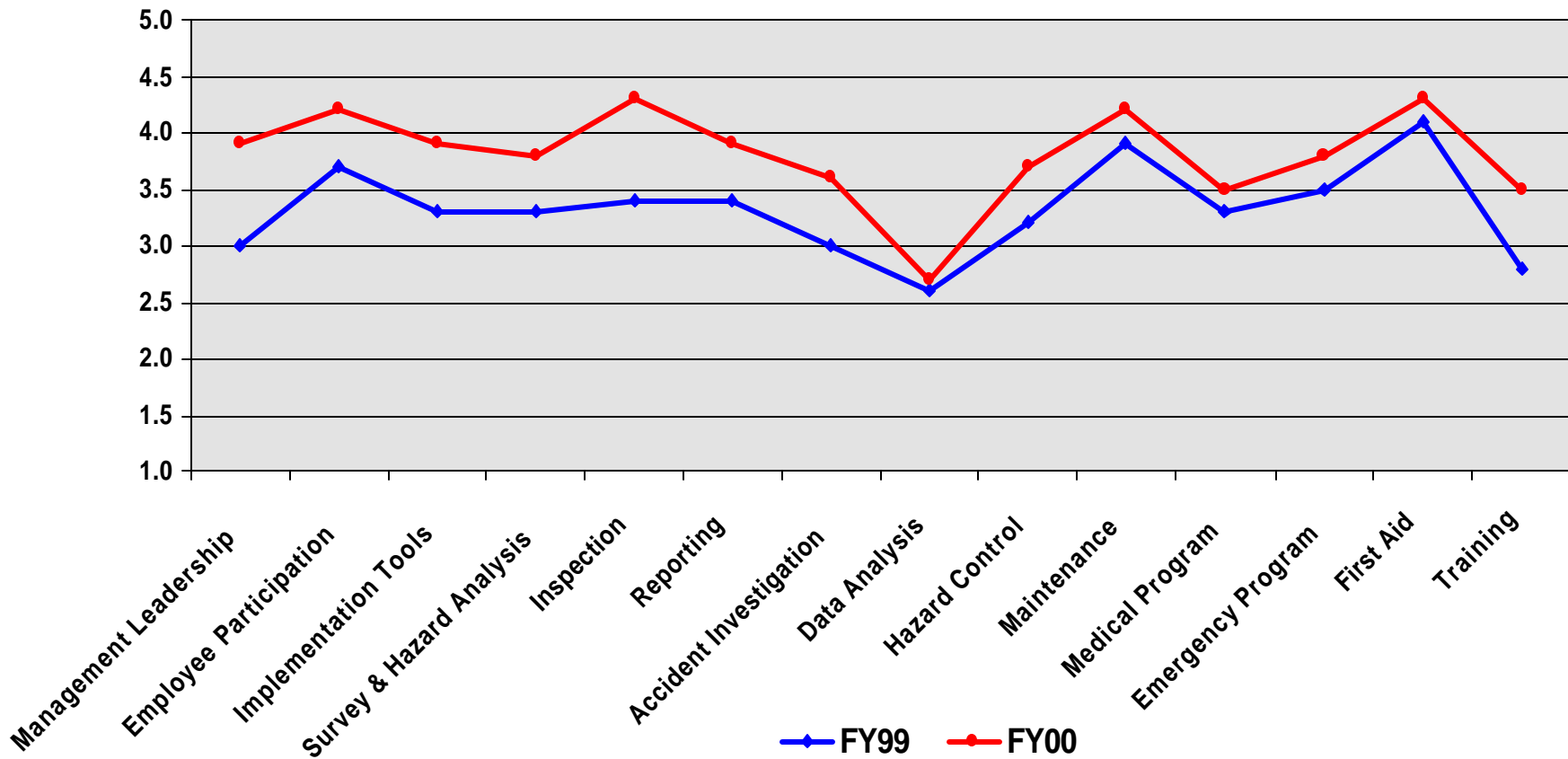
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Lost-Time Rate Trends FY94 to FY00



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PEP Survey Trends FY99 to FY00



MSFC Safety Program Status

Program based on Agency Safety Initiative (ASI)

- **Protect Public, Astronauts and Pilots, NASA Workforce, and High Valued Equipment and Property**
- **Four ASI Core Process Requirements (CPR's)**
 - **Management Commitment and Employee Involvement**
 - **System and Worksite Hazard Analysis**
 - **Hazard Prevention and Control**
 - **Safety and Health Training**

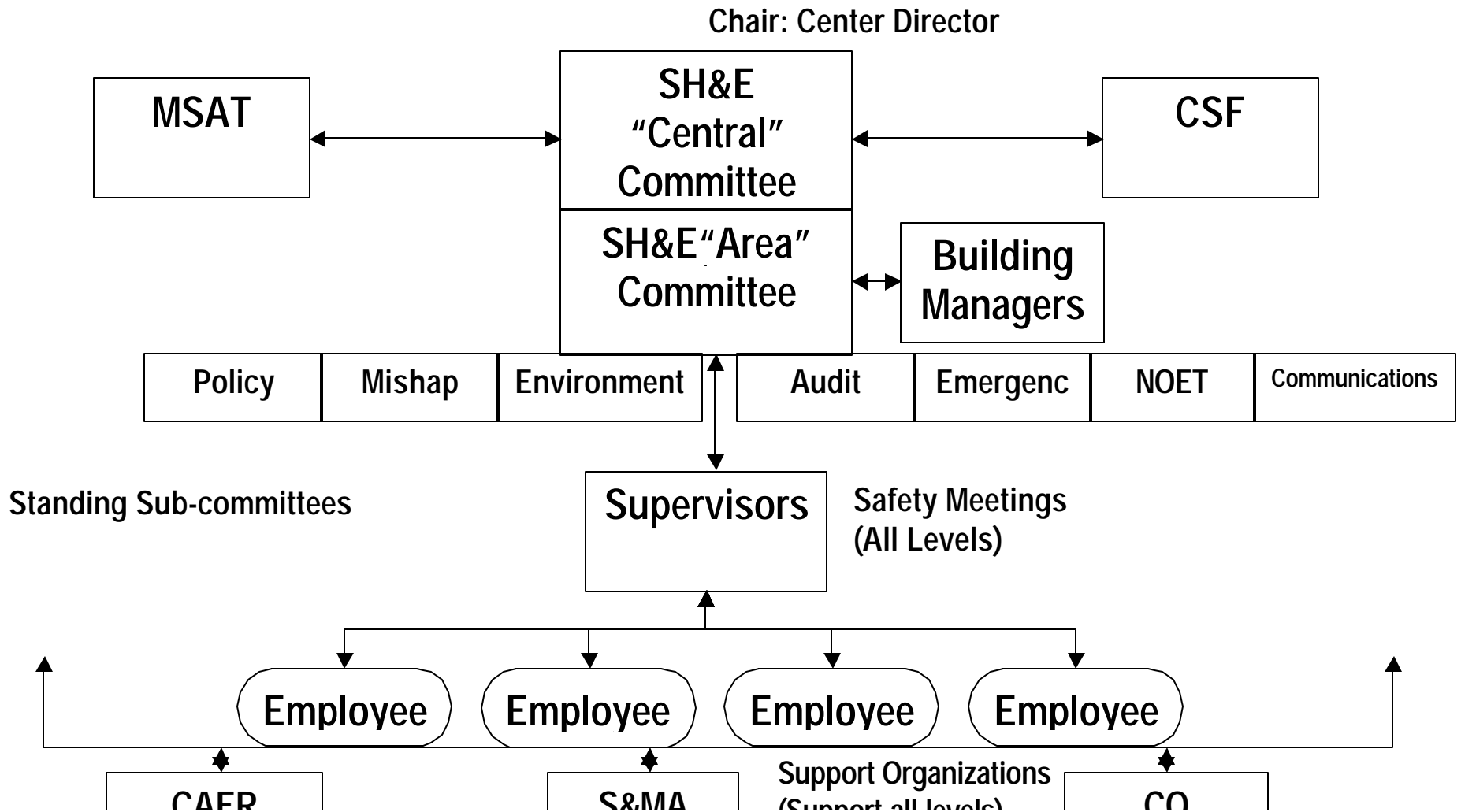
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CPR1 – Management Commitment & Employee Involvement

- **Management Safety Committees**
- **Grass Roots – Marshall Safety Action Team (MSAT)**
- **Contractor Safety Forum (CSF)**
- **One-Stop Safety Reporting 544-HELP**
 - **Emergency 911**
 - **Safety Hot Line 4-0046**
- **Safety Concerns Reporting System**
- **Manager Safety Meetings – All Levels**
- **Manager Safety Walk-Throughs– All Levels**
- **“Dr. Know”**
- **Safety Mascots**

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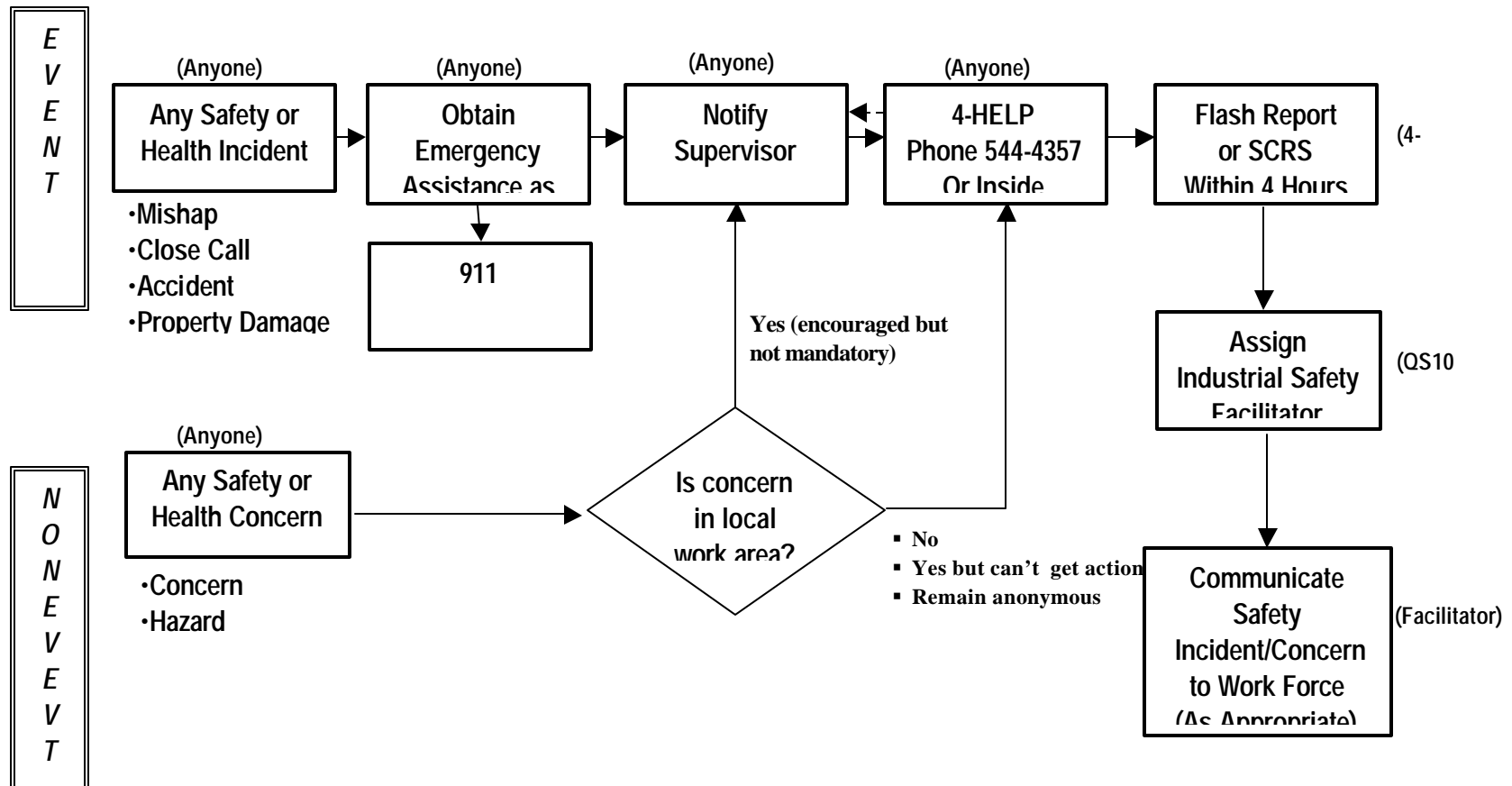
MSFC SH&E Management



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Safety & Health Issue Reporting

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CPR 2 - System and Worksite Hazard Analysis

- **Job Hazard Analysis - All Jobs**
- **Annual Safety and Environmental Health Inspections**
- **Safety Review Added to Internal ISO Audits**
- **Safety Performance Evaluation Profile – Added Onsite Contractors**
- **Risk Management Tools Requirement Matrix (MWI 7120.6)**
- **Independent Gap Assessment by SAIC**
- **Mishap/Close Call Reporting and Investigation**
- **Mishap Trending and Metrics**

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Program/Project Minimum Risk Management Tool Requirements

program/project life. (PMC concurrence required)

Type II projects/programs – Medium national prestige; medium complexity; medium cost; medium program/project life. (PMC concurrence required)

Type III projects/programs – Little national prestige; low complexity; low cost (Less than PMC threshold); short program/project life.

CPR 2

CPR – 3 Hazard Prevention and Control

- **Inventory of Hazardous Operations**
- **Contractor Safety Metrics Reporting Form**
- **Web-Based Certification Tracking System**
- **Contractor Safety Performance Evaluation System**
- **Hazard Analyses for In-House Projects/Hazardous Activities**
- **Fault Tree Analyses**
- **ALERT's**
- **HEDS Independent Assessments**
- **Payload Safety Readiness Review Board**

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CPR 4 -Safety and Health Training

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- **Safety and Health 2000 Training**
- **Special Training for Building Managers**
- **Annual Safety Day Standdown**
- **Annual Health Expo**
- **Safety Bowl (grassroots idea)**
- **Continuous Risk Management Training & Workshop – Nine Projects Completed CY00**
- **Monthly Safety Meetings**
- **Bulletins and Marshall Star Articles**
- **Center Messages (E-mail, TV, Daily Planet, and Message Boards)**
- **SHE Weekly Highlights**

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**SAMPLE SAFETY/HEALTH & ENVIRONMENTAL HIGHLIGHTS
September 25, 2000**

- 55 Days Without an MSFC Lost-Time Injury
 - Department/Office Managers and Group Leads shall promote safety by setting a positive example. (MPG 8715.1, "Marshall Safety, Health, and Environmental (SHE) Program.")
 - FY 2001 Safety Course Schedule - The safety course schedule for FY 2001 is now on the web, located in the S&MA website at the following address:
<http://msfcsma3.msfc.nasa.gov/dbwebs/apps/training/default.taf>. These courses are offered at MSFC by the NASA Safety Training Center, and are available to both civil service and contractor personnel. Registration is via the web page only -- these classes are not in AdminSTAR. Classes are filled on a first-come first-serve basis; capacity is usually 20-25.
 - The HEAT Is On... Fire Prevention Week - October 8-14.
 - Chemical Inventory training will be conducted Wednesday, October 11, 2 –3 p.m., Morris Auditorium. Employees assigned as points-of-contact or the actual inventory takers must attend. This training (MPG 8870, Chapter 3) will update users on how to correctly report their current chemical inventories.
 - Safety Events:
 - Forklift Refresher Training (ViTS), September 26, 11 a.m. - 2 p.m., Bldg. 4666, Room 243
 - Forklift Refresher Training (ViTS), September 27, 9 a.m. - 12 noon, Bldg. 4666, Room 243
 - Overhead Crane Refresher Training (ViTS), September 28, 2:15 p.m. - 5:15 p.m., Bldg. 4666, Room 243
- These sessions are classroom instruction only; specifically for operators who need re-certification. Civil service and contractor personnel should register at:
<http://msfcsma3.msfc.nasa.gov/dbwebs/apps/training/default.taf>
- Safety Worksite Assessment Team (SWATeam) will meet to work on Job Hazard Analyses September 28, Bldg. 4202, Room 326, 9 a.m.
 - Safety training for new Building Managers/Assistants, October 17, Bldg. 4203, Room 1201, 9 a.m. – 12 noon
 - Safety Day - October 25
- Thought for the Week: "Get a good grip...avoid

POC: Industrial Safety, Dennis Davis, 544-8628; Test Area Safety, Rosalyn Patrick, 544-5373; Safety Communications, Judy Milburn, 544-4802; Environmental Health, David Thaxton, 544-8371; Emergency Preparedness, Cathy Miller, 544-5187; Environmental Engineering,

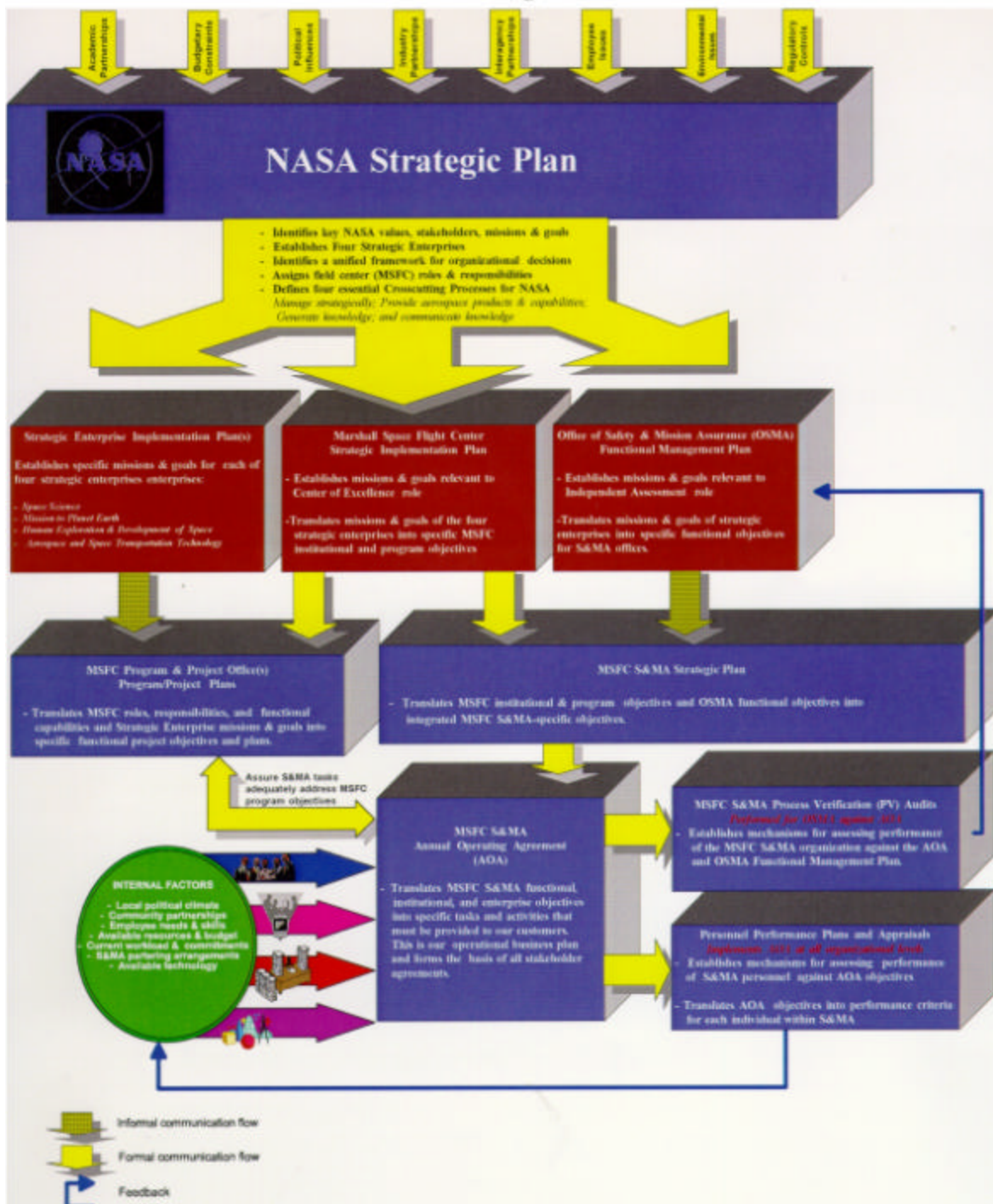
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Farley Davis, 544-6935; Training, Pat Schultz, 544-7559; Internal Relations & Communications, Angela Storey, 544-0632; Recycling, Lucy Boger, 544-0320; Energy Conservation, Cedreck Davis, 544-3221; Medical, Joyce Eagan, 544-3996

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MSFC Linkage Chart



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SAFETY AND MISSION ASSURANCE OFFICE CHARTER

MISSION STATEMENT

To plan, establish, implement, and direct all safety and mission assurance (S&MA) programs for the Marshall Space Flight Center (MSFC) to include surveillance of all MSFC in-house and contracted activities to ensure compliance with program/project requirements and controls; provide continuous review and evaluation of S&MA activities at all levels throughout the Center and associated contractors; administer and provide insight for MSFC flight programs, the NASA Engineering and Quality Audit (NEQA) Program for MSFC-managed contractors, MSFC's ISO 9000 Program, and the Space Flight Awareness Program; participate in the development of NASA-wide and MSFC policies and directives related to safety and mission assurance functions; develop and implement innovative assurance systems and methodologies; establish policy requirements; and develop and assess implementation plans for safety, quality, reliability, and risk management programs for MSFC-managed projects.

RESPONSIBILITIES

1. Develops and establishes a comprehensive safety program to help prevent accidents at work and at home thus assuring the safety of NASA employees, onsite contractors, the public, NASA flight crews, and flight safety of MSFC managed hardware.
2. Supports safety policy development and implementation for MSFC flight and institutional operations, including providing support to the MSFC Safety, Health, and Environmental Committee and serving as cochair of the area committee.
3. Supports ISO 9000 policy development and implementation for MSFC and other NASA Centers. Provides a focal point for ISO 9000 auditing.
4. Establishes requirements, approves plans, assesses implementation, and recommends corrective action for safety and mission assurance activities supporting MSFC programs/projects.
5. Plans and provides S&MA colocated staffing arrangements for MSFC programs and projects. Provides technical support using engineers and specialists at MSFC, Resident Management Offices, and other sites as required.
6. Participates in the development of NASA and MSFC policies and directives governing S&MA activities

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Responsibilities (cont'd)

7. Develops innovative safety and mission assurance systems and facilitates their application. Develops and establishes improved or new reliability, risk assessment, inspection technology, root cause assessments, corrective actions, hazard controls, and metrics requirements.
8. Conducts inspection of hardware and surveillance of in-house test operations. Ensures, through resident personnel and inspection agencies, that these inspection and surveillance functions are accomplished on contracted efforts. Serves as the S&MA, Centerwide focal point for all phases of design, manufacturing, and testing activities.
9. Develops guidelines for and oversees MSFC and contractor implementation of a Space Flight Awareness Program. Provides motivational materials, promotes motivation-oriented awards, and establishes and maintains a comprehensive awareness of safety and quality issues Centerwide.

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MISSION AREA ROLES AND RESPONSIBILITIES

Safety and Mission Assurance (S&MA) supports NASA, MSFC, and their customers in establishing requirements, and approving and assessing implementation of plans for providing quality, reliability, and safety products and programs by performing:

- Risk Management (analyses, special studies, models, predictions, training)
- Independent assessments of flight readiness
- Mishap investigation and reporting
- Problem reporting and closure
 - Problem Reporting and Corrective Action (PRACA)
 - Acute Launch Emergency Restraint Tip (ALERTS)
 - Incident Reporting and Investigation System (IRIS)
 - Hazard Tracking System (HAZTRACK)
 - Safety Concerns Reporting System (SCRS)
 - Certification Tracking System (CERTRAK)
 - Supervisors Safety Web Page
- Support milestone reviews (PDR, CDR)
- Configuration management assurance for critical items
- Audit administration
 - ISO 9000
 - NASA Engineering and Quality Audits (NEQA)
 - Facility audits
 - Contractor audits
- Surveillance
- Reliability and systems safety assessments
- Pyrotechnic and Booster Separation Motor (BSM) lot acceptance
- Nondestructive Evaluation/electrical/mechanical assessments
- Evaluate workmanship standards, specifications, and procedures
- Identify quality sensitive characteristics
- Coordinate Space Flight Awareness activities for MSFC
- Resident Management Office support (process review, surveillance, hardware acceptance, material review board)
- Prelaunch Assessment Reviews (PARs), Flight Readiness Reviews (FRRs), and launch support
- S&MA assessments (risk, hardware, audits, test support)
- Evaluate Engineering Change Proposals, waivers, deviations, Change Control Board, Certificates of Qualification

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Mission Area Roles and Responsibilities (cont'd)

- Provide direction to delegated quality support Defense Contract Management Agency (DCMA)
- Support Shuttle Systems Safety Review Board
- Member of Human Exploration and Development of Space (HEDS) Assurance Board
- Administer and support MSFC Payload Safety Readiness Review Board
- Respond to unsafe conditions, emergencies, and hazards
- Perform facility safety assessments
- Ensure OSHA compliance, public safety, and fire protection
- Serve as a focal point for mishap activities
- Implement industrial safety improvements
- Hazard Control Program: identify, abate, track and follow-up
- Hazardous Operations: review/approve procedures
- Perform Government inspections of flight hardware

Core capabilities and competencies:

-Workforce

- Project/technical/professional Management
- Risk Management
- Safety and Mission Assurance
- Systems Safety Engineering
- Reliability Engineering
- Quality Engineering/Assurance
- Industrial Safety

-Facilities/Tools

- Secure multipurpose climate controlled clean work/inspection areas
- Probabilistic Risk Assessments
- Failure Modes and Effects Analysis
- Critical Items Lists
- Risk Assessments
- Hazard Analysis
- Nondestructive Evaluation
- Trend Assessments/Analysis
- Nondestructive examination, soldering, and welding certification
- Inspection and test equipment

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VISION

The MSFC S&MA vision is to set the standard for S&MA excellence.

MISSION

The MSFC S&MA mission is to assure the safety and success of MSFC programs, projects, and other activities.

POLICY

MSFC will strive to prevent human injury and occupational illnesses and ensure safety of all operations products.

PRINCIPLES

- Unsafe conditions are correctable
- All mishaps can be prevented
- Management is responsible and accountable for prevention of on-the-job mishaps (incidents, close calls, etc.)
- All mishaps must be reported, investigated, and the causes rectified
- Management is responsible for training employees to work safely
- Each employee is responsible for safety
- Off-duty safety is an important part of MSFC safety success
- A comprehensive safety and risk management program increases the probability of mission success

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SAFETY INITIATIVES FOR FY 2001

Use the Agency Safety and Health Initiative Model to continue improvement in the MSFC Safety Program. Implement a program that will meet or exceed OSHA Star certification standards and submit for certification.

Management Commitment and Employee Involvement

- Implement a Web-based program to assist supervisors in conducting monthly safety meetings and walk-throughs, and to track any subsequent actions
- Make worksite safety documentation user friendly
- Implement employee involvement activities
- Ensure public safety during X-34, X-37, and X40 flight testing

System and Worksite Hazard Analysis

- Perform job hazard analyses for all jobs at MSFC
- Improve communication of lessons learned from mishaps and close calls

Hazard Prevention and Control

- Train supervisors to perform job hazard analyses
- Develop contractor safety performance evaluation methods

Safety and Health Training

- Provide all onsite contractor employees with safety and health philosophy and process training
- Reinforce safety philosophy to managers, supervisors, and employees

MSFC SAFETY AND MISSION ASSURANCE OFFICE FY01 ANNUAL OPERATING AGREEMENT

SAFETY AND MISSION SUCCESS METRICS

- Achieve a world class lost-time mishap rate of 0.1 or less with the ultimate goal of 0
- All MSFC projects successfully complete their safety reviews on time

MSFC SAFETY AND MISSION ASSURANCE OFFICE FY01 ANNUAL OPERATING AGREEMENT

SAFETY AND MISSION ASSURANCE MANAGEMENT SYSTEM

Safety initiatives and metrics are managed with the use of a RADAR matrix. The RADAR matrix is a Web-based reporting system which provides a current visual status of all S&MA projects and activities. Each project or activity is assigned a lead, which is responsible for reporting progress and identifying obstacles to success, which require management intervention. Entries are categorized as technical, budgetary, management, or other and are assigned a color-coded status indicator of green, yellow, or red. Green indicates the project is routine and progressing with no issues, yellow indicates a potential adverse impact, and red represents items with the greatest potential impact and management attention.

RADAR provides department managers with fast, specific information about their projects, identifies projects or activities where their attention is needed, and allows them additional insight into how their personnel are performing. Weekly briefings assure S&MA personnel that their major concerns will be addressed by management and also allows the entire organization a broader visibility of S&MA functions. Over time, trends in RADAR data are analyzed to identify specific organizations, projects, personnel, or other issues, which most often cause concern so that appropriate corrective action can be taken. RADAR trend data is also used to monitor the effectiveness of corrective actions.

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SAMPLE RADAR ACTIVITY MATRI X

POC	ACTIVITY	QS01	QS10	QS20	QS30	S&MA SUPPORT CONTRACTORS
QS01	Ellis	S&MA COTR	YELLOW 1	GREEN	GREEN	GREEN
QS01	Goodson	Safety Audits/Walk Throughs	GREEN	GREEN	GREEN	GREEN
QS01	Grady	CAITS	GREEN	GREEN	GREEN	GREEN
QS01	Guin	Budget / Workforce (CWC'S)	GREEN / WC 1	GREEN	GREEN	GREEN
QS01	Hall	Logistics	GREEN / WC 1	GREEN	GREEN	GREEN
QS01	Hall	Travel	GREEN	GREEN	GREEN	GREEN
QS01	Hediger	S&MA Metrics	GREEN	GREEN	GREEN	GREEN
QS01	Miller	Personnel Actions	GREEN / WC 1	GREEN	GREEN	GREEN
QS01	Miller	Training	GREEN	GREEN	GREEN	GREEN
QS01	Smith	S&MA Mission Service Contractor	YELLOW 1	GREEN	GREEN	GREEN
QS01	Weathers	Space Flight Awareness	GREEN / WC 2	GREEN	GREEN	GREEN
QS10	Blair	Inspection Oversight	GREEN	GREEN / WC 1	GREEN	GREEN
QS10	Blair	Receiving Inspection	GREEN	GREEN	GREEN	GREEN
QS10	Davis	Constriction Monitoring	GREEN	GREEN	GREEN	GREEN
QS10	Davis	Design Reviews	GREEN	GREEN	GREEN	GREEN
QS10	Davis	Fire Protection	GREEN	GREEN / WC 1	GREEN	GREEN
QS10	Davis	Hazard Abatement and Control	GREEN	GREEN	GREEN	GREEN
QS10	Davis	Hazard Analysis and Controls	GREEN	GREEN / WC 1	GREEN	GREEN
QS10	Davis	OSHA Compliance / Public Safety	GREEN	GREEN	GREEN	GREEN
QS10	Davis	Safety Awareness Program	GREEN	YELLOW 1	GREEN	GREEN
QS10	French	Job Hazard Analysis	GREEN	GREEN	GREEN	GREEN

SAMPLE RADAR PROJECT MATRIX

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POC		PROJECT		TECHNICAL ISSUES	MANAGEMENT	SCHEDULE	RESOURCES	S&MA DELIVERABLES	OTHER
QS20	Adams	Shuttle Integration	URL	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN
QS20	Gladwin	ET	URL	YELLOW 2	GREEN	GREEN	GREEN	GREEN	GREEN
QS20	Hartline	SSME	URL	YELLOW 1	GREEN	GREEN	GREEN / WC 1	GREEN	GREEN
QS20	Kreynus	CRV	URL	GREEN	GREEN / WC 1	GREEN	GREEN	GREEN	GREEN
QS20	Kreynus	X-38	URL	RED 1	RED 1	GREEN	GREEN	GREEN	GREEN
QS20	Mullane	RSRM	URL	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN
QS20	Strickland	X-33	URL	GREEN	GREEN	YELLOW 1	GREEN	GREEN	GREEN
QS20	Trentham	X-34	URL	GREEN	YELLOW 1	GREEN	YELLOW 1	YELLOW 1	GREEN
QS20	Trentham	X-37	URL	YELLOW 1	GREEN	GREEN	YELLOW 1	GREEN	GREEN
QS20	Walker	SRB	URL	GREEN / WC 1	GREEN / WC 1	GREEN	GREEN	GREEN	GREEN / WC 2
QS20	Whitley	DRACO/RBCC	URL	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN / WC 1
QS20	Whitley	ProSEDS	URL	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN
QS20	Whitley	SPASE	URL	GREEN	GREEN	GREEN	GREEN	GREEN	YELLOW 1
QS30	Anderson	ECLSS/OGS	URL	YELLOW 2	YELLOW 1	GREEN	RED 1	GREEN	GREEN
QS30	Anderson	ECLSS/VCD-FE	URL	GREEN / CL 1	GREEN / CL 1	GREEN	GREEN	GREEN	GREEN
QS30	Anderson	ECLSS/WRS	URL	YELLOW 2	YELLOW 1	GREEN	RED 1	GREEN	GREEN
QS30	Bernier	BUNDLE / CSS / IPSIDS	URL	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN
QS30	Bernier	EDSE	URL	GREEN	GREEN	GREEN	GREEN	GREEN	GREEN
	Bernier	ELMS	URL	GREEN	GREEN	GREEN	GREEN	GREEN	
	Bernier	SDLE	URL	GREEN	GREEN	GREEN	GREEN	GREEN	
	Bernier	SHIVA	URL	GREEN	GREEN	GREEN	GREEN	GREEN	



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Mgr. C.H. Shivers
Dep. T.J. Hamm

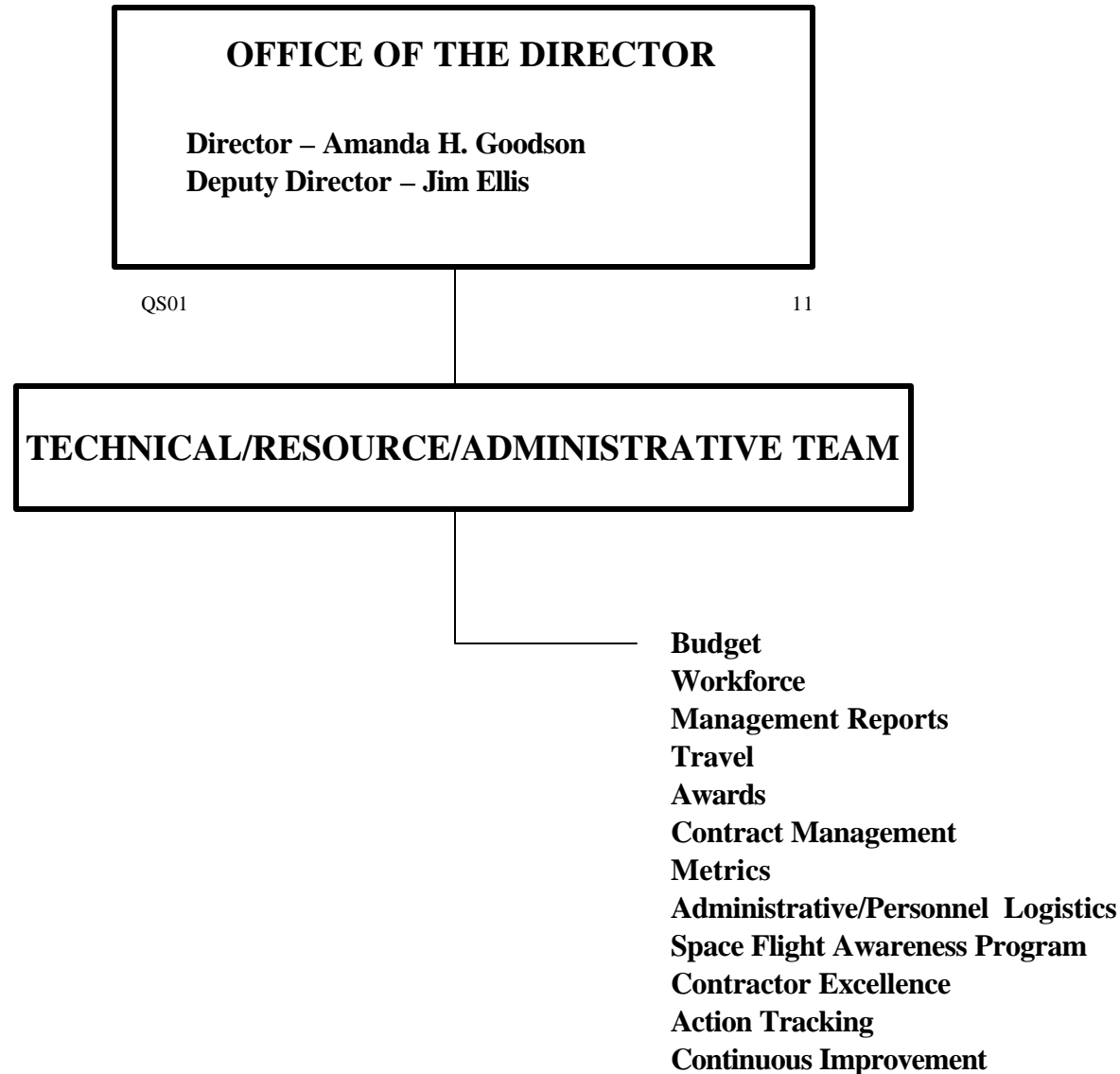
**MSFC SAFETY AND MISSION ASSURANCE OFFICE
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**Civil Service/Support Contractor
Workforce Summary FY01**

<u>S&MA ACTIVITIES</u>	<u>QS01</u>	<u>QS10</u>	<u>QS20</u>	<u>QS30 Support Contractor</u>	
1. S&MA Director Support	11	0	0	0	2
2. Risk Management/Assessment		5	7	2	33
3. Process Insight/Product Assurance		7	10	9	22
4. Resident Management Office Support		0	20	0	0
5. Quality Program/Audits		12	1	1	8
6. ISO 9001		2	0	0	0
7. Launch/Mission Support		2	4	2	15
8. S&MA Plans and Policies		3	1	1	3
9. Institutional Safety		13	1	0	14
10. Safety Promotion/Special Event/Training		2	0	1	1
TOTAL					
(Civil Service 117)	11	46	44	16	100
(Support Contractor 100)					

**MSFC SAFETY AND MISSION ASSURANCE OFFICE
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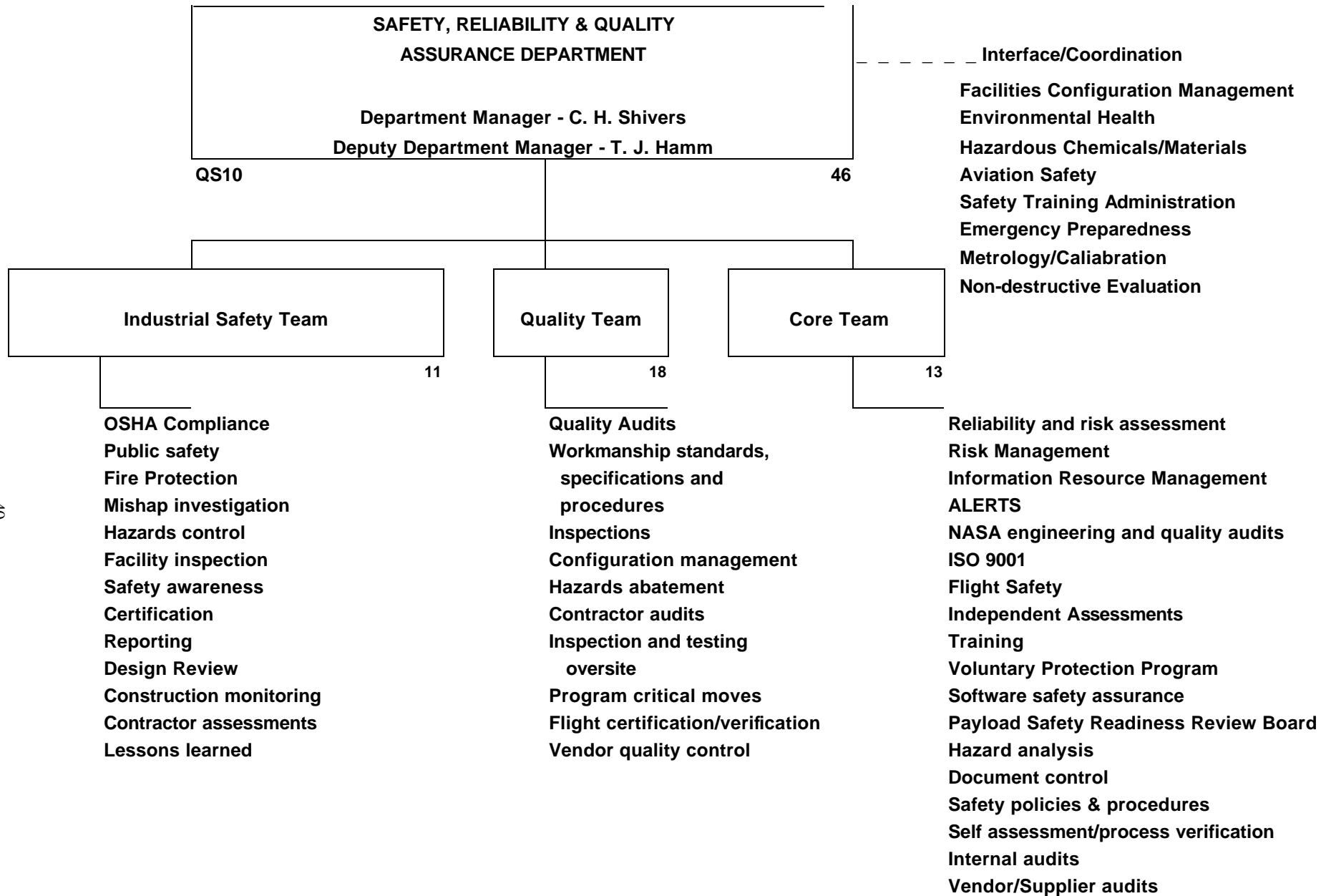
SAFETY AND MISSION ASSURANCE OFFICE



**MSFC SAFETY AND MISSION ASSURANCE OFFICE
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MSFC SAFETY AND MISSION ASSURANCE OFFICE

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MSFC SAFETY AND MISSION ASSURANCE OFFICE
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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Engineering		MSFC LINE ITEM: QS10-01
<u>TASK / ACTIVITY</u>	<u>PRODUCT</u>	<u>CUSTOMERS</u>
<p>Implement ISO 9001 program at MSFC.</p> <p>Perform ISO 9001 Internal Audits necessary to maintain certification. Internal audits include an industrial safety audit of MSFC Directorates and on-site contractors reporting to these Directorates.</p> <p>Operate Corrective / Preventive Action Systems to assure adequate Recurrence Control / preventive action taken and to maintain ISO 9000 certification.</p>	<p>ISO 9001 Certification at MSFC.</p> <p>Audit records necessary to maintain ISO 9001 Certification at MSFC.</p> <p>Corrective / preventive records necessary to maintain ISO 9000 Certification at MSFC. Populated, maintained CAS database.</p>	<p>NASA Administrator MSFC Center Director MSFC Organization Elements Industrial Safety Team</p>
<u>REQUIREMENT</u>		<u>RISK OF NOT DOING</u>
<p>NPD 8730.3 NASA Quality Management System Policy NPG 8715. 1 (paragraph 8.2), NASA Safety and Health Handbook Occupational Safety and Health Programs MPD 1280.1, MSFC Management Manual MPG 1280.4, MSFC Corrective Action System MPG 1280.6, Internal Quality Audits</p>		<p>ISO 9000 Certification will not be maintained as required. Repeated nonconformances. Deficient procedures.</p>
<u>PERFORMANCE METRIC:</u>		
<p><u>PERFORMANCE GOAL:</u> Successfully completing Registrar's subsequent semi-annual audits Successfully performing and documenting internal audits Monthly CAS activities and status report by 10th of month; Delinquent POC Response Report by 10th of month; Open RCARs status report and delinquent activities provided to each ISO Imp Team meeting; Summary CAS / RCAR data provided for MSFC Quality Council</p>		
<p>METRIC DATA: http://iso9000.msfc.nasa.gov:9001/historical/registration_audits/registration_audits.html http://msfcsma1.msfc.nasa.gov/dbwebs/ncr/ http://msfcsma3.msfc.nasa.gov/tech/pac/opl/casmon.html</p>		

MSFC SAFETY AND MISSION ASSURANCE OFFICE
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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Engineering		MSFC LINE ITEM: QS10-02
<u>TASK / ACTIVITY</u> Support NASA Engineering and Quality Audits (NEQA) to assure S&MA Office requirements are adequately imposed on contractors and NASA installations. NEQA includes an industrial safety audit of prime off-site contractors.	<u>PRODUCT</u> Conduct audits at Prime Contractors Facilities and report results Audit Reports	<u>CUSTOMERS</u> MSFC Project Offices S&MA Management Industrial Safety Team
<u>REQUIREMENT</u> NPG 8715.3 (Chapter 2), NASA Safety Manual NSTS 5300.4 (1D-2) SSP Directive No. 55F Paragraph 4.b.2 MWI 5330.2, NASA Engineering and Quality Audit (NEQA)		<u>RISK OF NOT DOING</u> Greater probability of undetected Quality escapes in hardware delivered for Space Shuttle Program
<u>PERFORMANCE METRIC:</u> http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Engineering		MSFC LINE ITEM: QS10-03
<u>TASK / ACTIVITY</u> Perform or monitor SQA Activity Define Software Quality Assurance program for assigned experiments	<u>PRODUCT</u> Reports contain results of surveillance SQA Plan	<u>CUSTOMERS</u> Appropriate Project Offices S&MA Office management
<u>REQUIREMENT</u> Reference NPD 2820.1, NASA Software Policies. Customer Satisfaction.		<u>RISK OF NOT DOING</u> Greater probability of undetected quality escapes in delivered S/W
<u>PERFORMANCE METRIC:</u> <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		
IMPROVEMENTS: To address PV MSSMA08, the following improvements are planned: increase SQA resources to two (+) civil service FTE's (previously < one) and three (+) mission services contractor FTE's [previously one (+)] and convert CQ5330.1 to organizational issuances (OI's). Funds for two additional mission service contractor personnel have been requested in FY01 through Code Q. Additional resources will enable MSFC SQA to be involved in software projects during the development process. S&MA OI's to replace CQ 5330.1 have been drafted and are in the approval process. MSFC has initiated a software working group (SWG) that is responsible for: <ol style="list-style-type: none"> 1. Recommending software policy to the Center Director, Directorate Directors and Project Managers 2. Supporting the NASA Software Working Group activities as required 3. Integrating the software engineering processes into system engineering on MSFC programs 4. Facilitating the transfer of software technology 5. Functioning as an advisory group to MSFC's Chief Engineers and Project Managers 6. Supporting and facilitating the establishment of Capability Maturity Model levels for critical software developed both for and by MSFC 7. Providing an information resource pool for software engineering expertise, peer reviews, mentoring and sharing ideas, methods, data, technologies, processes, tools, and lessons learned to improve communication on software issues 8. Supporting MSFC ISO 9000 process in the area of software development 9. Identifying and coordinating the MSFC software training opportunities. S&MA is a member of the MSFC SWG.		

MSFC SAFETY AND MISSION ASSURANCE OFFICE
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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Engineering		MSFC LINE ITEM: QS10-04
<u>TASK / ACTIVITY</u> Support MSFC projects in the area of quality assurance from the point of inception to completion. Support the project in planning, development, inner-Center agreements, design, configuration management, procurement, inspection and testing oversight, verification and Flight certification, program critical moves, and shipping.	<u>PRODUCT</u> Project quality plans, Memorandums of Understanding (MOU), design input/output review and approval, procurement reviews, contract Government inspection delegations, project inspection, test monitoring, critical move, and shipping requirements, verification and Flight certification assessments.	<u>CUSTOMERS</u> MSFC projects, S&MA project contacts, co-located S&MA offices, and Procurement.
<u>REQUIREMENT</u> MPD 1280.1, MWI 7120.1, MPG 5000.1, MPG 8040.1, MPG 8060.1, MPG 1050.1, MPG 8730.1, MPG 8730.3, MPG 6410.1,		<u>RISK OF NOT DOING</u> Safety risk to Flight hardware, which could result in loss of mission, vehicle, and personnel.
<u>PERFORMANCE METRIC:</u> Quality planning assures hardware meets requirements for program safety and mission success.		
<u>PERFORMANCE GOAL:</u> Final Certificate of Flight Readiness (COFR)		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Engineering		MSFC LINE ITEM: QS10-05
<u>TASK / ACTIVITY</u> Vendor quality control – performs quality system and process audits of vendors and build-to-print suppliers. Trend supplier nonconformances detected at receiving inspection and request corrective actions as necessary. Assist projects by performing troubleshooting/problem resolution at supplier’s facilities.	<u>PRODUCT</u> Audit reports, generation and maintenance of web based Audited Vendor List (AVL), supplier trending database, and corrective action requests.	<u>CUSTOMERS</u> MSFC projects, S&MA co-located offices, and Procurement.
<u>REQUIREMENT</u> MPG 5000.1, MWI 5330.1, QS01-QA-010		<u>RISK OF NOT DOING</u> Increase in nonconformances resulting in increased cost.
<u>PERFORMANCE METRIC:</u> Nonconformances detected at receiving inspection.		
<u>PERFORMANCE GOAL:</u> Evaluate 100% of vendor nonconformances against the corrective/preventative action criteria. Request/ensure corrective/preventative action for 100% of the nonconformances that meet the criteria.		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Assurance		MSFC LINE ITEM: QS10-06
<u>TASK / ACTIVITY</u> Provide inspection services for all flight and associated hardware processed at MSFC. Inspections performed will include, but not be limited to receiving, dimensional, visual, non-destructive evaluation (NDE), acceptance, and metallographic for printed wiring boards. Inspections will be used to support problem investigations, flight readiness assessments, intercenter agreements, change evaluation activities, and those that are performed at the request of the program/project to assure the highest confidence in mission success and safety are maintained.	<u>PRODUCT</u> 1. Generation of reports to the MSFC Fracture Control Board. 2. Generation of inspection reports and discrepancy records. 3. Generation of inspection data for problem reporting databases.	<u>CUSTOMERS</u> 1. All MSFC projects that process flight and associated hardware through MSFC 2. S&MA Management 3. Customers outside of MSFC that have negotiated tasks.
<u>REQUIREMENT</u> 1. MPD 1280.1 Marshall Management Manual 2. MPG 8730.3 Control of Nonconforming Product 3. QS10-IS-006 Mishap Investigation, Abatement, and Record keeping 4. QS10-QA-001 Acceptance Reporting Instruction 5. QS10-QA-009 Penetrant Inspection 6. QS10-QA-010 Magnetic Particle Inspection 7. QS10-QA-011 Radiographic Film Interpretation 8. QS10-QA-016 Quality Deficiency Reporting 9. QS10-QA-018 Review of Drawings and Work Authorizing Documents 10. QS10-QA-019 Inspection of Propellant and Explosive Devices 11. QS10-QA-022 Visual Weld Inspection 12. QS10-QA-024 Ultrasonic Inspection 13. QS10-QA-025 Eddy Current Inspection 14. QS10-QA-026 Monitoring Field Cleaning Operations 15. QS10-SS-007 Inspection and Test Planning 16. Engineering Drawings 17. Letters of Inspection		<u>RISK OF NOT DOING</u> Increased risks of flight hardware failures resulting from incomplete technical assessments of hardware.
<u>PERFORMANCE METRIC:</u> Customer survey (comment card) per task. For receiving inspection, measure number of days required to perform receiving inspection versus standard.		
<u>PERFORMANCE GOAL:</u> No negative feedback. 100% of receiving inspection performed in required timeframe.		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Assurance		MSFC LINE ITEM: QS10-07
<u>TASK / ACTIVITY</u> Provide QA coverage of functional, acceptance, and qualification testing for flight and associated hardware.	<u>PRODUCT</u> 1. Completion of as-run test procedures. 2. Generation of Discrepancy Records.	<u>CUSTOMERS</u> All MSFC projects that process flight hardware through MSFC.
<u>REQUIREMENT</u> 1. MPD 1280.1 Marshall Management Manual 2. MPG 8730.3 Control of Nonconforming Product 3. QS10-QA-003 Quality Assurance Guidelines for Test Activities 4. QS10-QA-016 Quality Deficiency Reporting 5. Project Specifications 6. Letters of Inspection 7. Engineering Drawings		<u>RISK OF NOT DOING</u> Product not meeting contract/project/customer requirements may be used in flight hardware. No QA verification of test data.
<u>PERFORMANCE METRIC:</u> Customer survey (comment card) per task.		
<u>PERFORMANCE GOAL:</u> No negative feedback.		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Quality Assurance		MSFC LINE ITEM: QS10-08
<u>TASK / ACTIVITY</u> Maintain quality records data center to ensure traceability and pedigree of flight and associated hardware. The records database will also be utilized to provide as-built configuration reports upon program/project request.	<u>PRODUCT</u> 1. As-built Configuration Status System (ABCSS) database. 2. Stamp database	<u>CUSTOMERS</u> 1. All MSFC projects that process flight and associated hardware through MSFC. 2. MSFC Procurement Office 3. S&MA Management
<u>REQUIREMENT</u> 1. MPD 1280.1 Marshall Management Manual 2. MPG 8730.3 Control of Nonconforming Product 3. QS10-QA-001 Acceptance Reporting Instruction 4. QS10-QA-008 Verifying As-Built Configuration 5. QS10-QA-012 Use of Withhold Tags 6. QS10-QA-014 Quality Assurance Records Center 7. QS10-QA-016 Quality Deficiency Reporting 8. QS01-QE-001 Quality Engineering Drawing Review Instruction		<u>RISK OF NOT DOING</u> Loss of parts traceability, loss of as-built versus as-designed configuration.
<u>PERFORMANCE METRIC:</u> Number of as-built reports provided		
<u>PERFORMANCE GOAL:</u> Provide a 100% of requested as-built reports within the agreed to schedule.		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10/Safety, Reliability, and Quality Assurance Department		
FUNCTION: Reliability		MSFC LINE ITEM: QS10-09
<u>TASK / ACTIVITY</u> Quantitative and Qualitative Reliability/Maintainability and Risk Assessments. Perform an integrated system safety and reliability risk analyses for new projects	<u>PRODUCT</u> Shuttle Risk Assessment RLV/ Reliability Assessments Probabilistic Risk Assessments Failure Modes and Effects Analysis Risk Assessment of Shuttle Upgrades Integrated Risk Analysis and Risk Management tools and products Reliability Predictions Parts Stress Analysis Worst Case Studies Maintainability Analysis Fault Tree Analysis Trade Studies	<u>CUSTOMERS</u> NASA Administrator X-33/X-34 Project Office X-33/X-34 Contractors, Shuttle Project Office, and Senior Center Management S&MA Offices Projects ISS Project
<u>REQUIREMENT</u> S&MA Charter Code Q Task Assignments Project Task Agreements NPG 7120.5A NPG 8705.X		<u>RISK OF NOT DOING</u> Unavailability of reliability information for use in Program Management /technical decisions. Project safety and reliability requirements will not be fulfilled, probability of uncontrolled hazards triggering accidents is increased and identification of high-risk components and systems/subsystems will not be provided and managed.
<u>PERFORMANCE METRIC:</u> <u>PERFORMANCE GOAL:</u> Thorough and timely reliability assessments		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Reliability		MSFC LINE ITEM: QS10-10
<u>TASK / ACTIVITY</u> ALERT Program	<u>PRODUCT</u> ALERTs Agency Action Notices Problem Advisory Information Only Alerts	<u>CUSTOMERS</u> Project Offices Directorates S&MA Offices Contractors
<u>REQUIREMENT</u> NSTS 5300.4 (1D-2) NPG 8735.1 MWI 1280.5, MSFC ALERT Processing		<u>RISK OF NOT DOING</u> Quality escapes with potential catastrophic consequences for MSFC managed flight hardware will not be assessed or resolved
<u>PERFORMANCE METRIC:</u> <u>PERFORMANCE GOAL:</u> Distribution to MSFC Actionees of ALERTs and ALERT-type notifications per MWI 1280.5 Timely submittal of GIDEP Annual Utilization Report		
<u>METRICS:</u> http://msfcsma3.msfc.nasa.gov/tech/pac/opl/alerts-by-distrib.html http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		

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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Reliability		MSFC LINE ITEM: QS10-11
<u>TASK / ACTIVITY</u> Operation of the Problem Assessment Center Maintain MSFC's UNIX PRACA data application.	<u>PRODUCT</u> Evaluation, analysis and correction of hardware contractor problem report information. Maintenance of the MSFC PRACA database system. Open hardware problem input to mission milestone reviews. Oversight and notification of hardware contractor problem reporting system operation. Formal close-out/disposition of problem reports.	<u>CUSTOMERS</u> MSFC Center Director Space Shuttle Projects Office Observatory Projects Office Flight Projects Directorate Science Directorate
<u>REQUIREMENT</u> NSTS 5300.4 (1D-2) NSTS 07700, Volume XI, Paragraph 3.4 NSTS 08126 SSP 30223		<u>RISK OF NOT DOING</u> Unresolved problems delaying mission preparation milestones. Inadequate problem recurrence control resulting in mission delay, added hardware expense, and/or loss of life or mission. Unavailability of supporting information for analysis of hardware/mission failures or unsatisfactory performance. Launch delays.
<u>PERFORMANCE METRIC:</u> <u>PERFORMANCE GOAL:</u> Count of PRACA-reportable problems not meeting contract reporting requirement. Trend number of days from problem occurrence to problem report submittal to NASA. Trend number of days from problem receipt to entered into MSFC PRACA. Monthly reports of newly opened/newly closed PRACA reports. For shuttle projects, trend by month of newly opened PRACA problems.		
<u>METRICS:</u> http://msfcsma3.msfc.nasa.gov/tech/pac/opl/oplmon.html		

MSFC SAFETY AND MISSION ASSURANCE OFFICE
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QS10 Safety, Reliability, and Quality Assurance Department

RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Reliability		MSFC LINE ITEM: QS10-12
<u>TASK / ACTIVITY</u> Lead MSFC Program and Project Risk Management Implementation Lead provision of training in Continuous Risk Management (CRM) techniques to MSFC employees Train cadre of in-house personnel trained to train in CRM	<u>PRODUCT</u> RM advice and guidance provided to Programs and Projects Training in Continuous Risk Management Techniques to all project team members Maintained available cadre of CRM trainers at MSFC	<u>CUSTOMERS</u> MSFC Program and Project Offices
<u>REQUIREMENT</u> NPG 7120.5A		<u>RISK OF NOT DOING</u> Improper implementation of S&MA effort resulting in unsafe hardware, unsuccessful mission, or missed milestones and budget targets. Cost, schedule, and performance impacts due to hardware and software nonconformances.
<u>PERFORMANCE METRIC:</u> Number of P/P to which RM guidance was provided (training, plan review, implementation, etc.) Number of CRM students trained each year. Number of certified trainers maintained each year. <u>PERFORMANCE GOAL:</u> Train project team members in risk management techniques.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department					
FUNCTION: Information Resource Management				MSFC LINE ITEM: QS10-13	
<u>TASK / ACTIVITY</u> S&MA Information Resource Management (IRM). Generate and maintain S&MA Project spotlight evaluation and HEDS metrics summary chart.		<u>PRODUCT</u> S&MA MIC room S&MA Databases S&MA Applications S&MA Computer Security S&MA ADPE Waiver Approvals		<u>CUSTOMERS</u> MSFC S&MA MSFC CIO MSFC ISO 9000	
<u>REQUIREMENT</u> MSFC ISO 9000 MMM MPG 2810.1 Information Technology Security S&MA Charter S&MA Mission Statement				<u>RISK OF NOT DOING</u> Loss of Data, degraded decision making capability, costlier S&MA operations	
<u>PERFORMANCE METRIC:</u> Incidences of lost data. <u>PERFORMANCE GOAL:</u> No lost data or degraded system performance.					

**SURANCE OFFICE
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		Quality Assurance Department	
		MSFC LINE ITEM: QS10-14	
			<u>CUSTOMERS</u>
		ISS and Payload Safety	Project/Program Offices QS20 and QS30
		of agency irement d QS30.	
		<u>RISK OF NOT DOING</u>	
		Uncontrolled hazards may exist that are caused by failures of computer-based controls.	
Letter MA2-97-083, "Computer Control of Payload Hazards". NSTS 22254, "Methodology for the Conduct of Space Shuttle Program Hazard Analysis"			
<u>PERFORMANCE METRIC:</u> Number of hazards found.			
<u>PERFORMANCE GOAL:</u> No uncontrolled software hazards found during phase safety reviews.			

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Certification		MSFC LINE ITEM: QS10-15
<u>TASK / ACTIVITY</u> Personnel Certification - Provide personnel certification for safety specialties, hazardous operations, and critical skills at MSFC. Approve certification training. Evaluate operations, processes, and skills to determine certification requirements.	<u>PRODUCT</u> - Properly qualified/certified personnel. - Certification database (CERTRAK).	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> OSHA Part 1960, subpart H NPG 8715.3 (Chapter 4), NASA Safety Manual MWI 3410.1,		<u>RISK OF NOT DOING</u> Violation of Federal law and increased risk for mishap. Unsafe operations. Uncertified personnel working hazardous operations and performing critical skills. Unacceptable variability in hardware quality.
<u>PERFORMANCE METRIC:</u> http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		
<u>PERFORMANCE GOAL:</u> Process certification documents in less than one week.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Flight Safety		MSFC LINE ITEM: QS10-16
<u>TASK / ACTIVITY</u> Operate and administer the MSFC Payload Safety Readiness Review Board (PSRRB) for Contractor and MSFC developed flight hardware.	<u>PRODUCT</u> Input and comments to the Safety Compliance Data Packages via the checklist review and Safety Review presentation packages via the PSRRB prepared by the contractor or MSFC. Readiness statement for project.	<u>CUSTOMERS</u> Project Offices
<u>REQUIREMENT</u> NSTS 1700.7B SSP 50021 SSP 50004		<u>RISK OF NOT DOING</u> Inadequate MSFC safety product being presented at sister center possibly leading to potential loss of Orbiter, ISS or flight or ground crew and/or NASA facilities
<u>PERFORMANCE METRIC:</u> Number of successful safety reviews. <u>PERFORMANCE GOAL:</u> All projects successfully complete safety reviews on time and with no more than minor actions assigned.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: HEDS Independent Assessment		MSFC LINE ITEM: QS10-17
<u>TASK / ACTIVITY</u> HEDS Independent Assessment - Perform Independent Assessment (IA) of selected critical systems, functions, and processes within the International Space Station Program and the Space Shuttle Program advise management of the potential technical risks. This effort includes identifying and prioritizing assessment topics, preparing plans, conducting technical, operational, and programmatic assessments, documenting results, identifying risks which may impact IA concurrence on the COFR, performing system specialist responsibilities, providing support to the IA Bi-monthly Status Review and IA Panel meetings, and develop and maintain Activity Reports, and IA WEB Site Data.	<u>PRODUCT</u> <ul style="list-style-type: none"> - Assessment Plans - Assessment Out-briefings - Assessment Reports - IA Finding/Issue Sheets - IA Risk Updates - Assessment Prioritization Updates - IA Status Presentation Package - IA WEB Home Page Data, Activity Reports, and Metrics 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> - HQ Code Q / H. Davis - Space Shuttle Program Managers - International Space Station Program Managers
<u>REQUIREMENT</u> NMI 1103.39, Independent Assurance Plan for the Human Exploration and Development (HEDS) JSC-27456, HEDS Independent Assessment Implementation Plan		<u>RISK OF NOT DOING</u> Independent evaluation of Program technical risks would not be provided to support IA COFR endorsement.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Each assessment report is graded by the HEDS IAO for technical content and value added to the Program.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-18
<u>TASK / ACTIVITY</u> Space Station Safety Coverage at MSFC - Provide Industrial Safety coverage for MSFC facilities used by Boeing for Space Station development, manufacturing, and assembly activities. Also, provide S&MA support for Functional Configuration Audits (FCAs).	<u>PRODUCT</u> - Facility Safety Inspections - Mishap Investigation - System Safety Reviews - Personnel certification - S&MA support for PCH moves	<u>CUSTOMERS</u> - Flight Projects Directorate - Space Station Program Office at JSC/Code OE
<u>REQUIREMENT</u> Task Agreement MT-15 with the Space Station Program Office at JSC		<u>RISK OF NOT DOING</u> Insufficient Industrial Safety oversight to assure NASA and OSHA requirements in MSFC facilities occupied by Boeing, who is the contractor to the Space Station Program Office at JSC.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Customer satisfaction		

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RESPONSIBLE OFFICE: QS10/Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-19
<u>TASK / ACTIVITY</u> Construction Design Reviews - Review construction plans and architectural drawings to assure compliance with national building codes and NASA facility safety requirements. Emphasis is placed on fire protection, the Life Safety Code, and unique NASA safety requirements, especially those developed by safety boards (e.g., ORIs and SRTs). Construction Document Reviews - review construction contractor's Safety & Health Plans and provides consultation services to address safety requirements for hazardous operations.	<u>PRODUCT</u> - Memorandums and redline drawings containing safety comments and suggestions. - Memorandums containing safety comments and suggestions.	<u>CUSTOMERS</u> - MSFC - Facility Users
<u>REQUIREMENT</u> MPG 8715.3 (Chapter 8), NASA Safety Manual NASA-STD-8719.7		<u>RISK OF NOT DOING</u> Safety's participation in the design process ensures all safety critical issues are addressed early, thereby saving costs associated with afterthought modifications. Also, incorporation of safety systems is more likely when an independent safety organization is involved in the design process. Failure to incorporate these systems could lead to unsafe facilities, expensive rebuilds, and increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> No facility modifications due to fire or safety concerns.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-20
<u>TASK / ACTIVITY</u> Construction Monitoring - Includes: Support Pre-Construction Conferences, Monitor construction sites, and Conduct a final safety inspection once construction work is completed. Long Range Planning - provide consultation services to develop long-range construction and facility modification plans. Also we are member of the MSFC FURB and have an active role in supporting projects, which reduce risk or bring the Center in compliance with national and NASA safety codes.	<u>PRODUCT</u> - Memorandums containing safety comments and suggestions to contractor Safety and Health Plans, construction site safety violation reports, final inspection safety violation report.	<u>CUSTOMERS</u> - MSFC Facilities Office
<u>REQUIREMENT</u> MPG 8715.3 (Chapter 8), NASA Safety Manual NASA-STD-8719.7		<u>RISK OF NOT DOING</u> Safety's participation in the construction monitoring process ensures construction contractors understand and follow MSFC safety requirements for on-site work. Risk of not monitoring the construction activities could lead to increased risk for mishap, especially to MSFC employees working in the vicinity of the construction site. Also, Safety's participation, as the organization "independent from the specific facility (user) management" is necessary to ensure a high priority is placed on future projects, which correct safety violations or reduce risk. Risk of not involving Safety could lead to increased risk for mishap.
<u>PERFORMANCE METRIC</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Low incidence rate for construction worker injuries.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department					
FUNCTION: Industrial Safety				MSFC LINE ITEM: QS10-21	
<u>TASK / ACTIVITY</u> Safety Inspections - Each year all MSFC facilities are inspected by professional safety inspectors. Emphasis is placed on compliance with OSHA safety standards. Findings are maintained in a computer database called HAZRTAK.		<u>PRODUCT</u> - Inspection Reports. - Charts presented to Directors, the Safety, Health & Environmental Committees, and the Center Director.		<u>CUSTOMERS</u> - MSFC	
<u>REQUIREMENT</u> NPG: 8715. 1, NASA Safety and Health Handbook Occupational Safety and Health Programs OSHA Part 1960, Subpart D				<u>RISK OF NOT DOING</u> Violation of Federal Law and increased risk for mishap.	
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ - Trend the number of findings by organization (HAZTRAK). - Trend the number of findings by type (HAZTRAK). <u>PERFORMANCE GOAL:</u> Reduce total number of findings.					

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-22
<u>TASK / ACTIVITY</u> Facility Hazard Analyses - provide consultation services to address safety requirements for facility designs. Risk assessment emphasis is placed on hazardous facilities. Perform hazard analyses in support of this effort.	<u>PRODUCT</u> - Hazard Analyses.	<u>CUSTOMERS</u> - MSFC - Construction Contractors
<u>REQUIREMENT</u> NPG: 8715. 3, NASA Safety Manual NASA-STD-8719.7,		<u>RISK OF NOT DOING</u> Risk of not involving Safety could lead to increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		
<u>PERFORMANCE GOAL:</u> Low employee incidence rates for injuries.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-23
<u>TASK / ACTIVITY</u> Fire Protection Safety Fire Drills - The Industrial Safety Office conducts annual fire drills to ensure equipment is working and personnel know the evacuation procedures. Issuing Permits - The Industrial Safety Office issue Burn Permits. Emphasis is placed on compliance with OSHA safety standards (29 CFR 1926), fire protection, and protection of MSFC employees and property.	<u>PRODUCT</u> - Fire Drill Reports - Burn Permits (MSFC Form 3798)	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> NPG 8715.3 (Chapter 9), NASA Safety Manual NSS 8719.X, NASA Fire Protection xxxx 29 CFR 1910 29 CFR 1926		<u>RISK OF NOT DOING</u> Risk of not involving Safety could lead to increased risk for fires and mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Annual fire drills are conducted.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-24
<u>TASK / ACTIVITY</u> Crane Certifications/Deviations - review lifting equipment certifications and deviations. Currently, the Industrial Safety Office puts together these packages for the users. One of the principal inputs is the FMEA for the cranes. In addition, the Industrial Safety maintains a database of certified/deviated cranes. Also, Industrial Safety monitors "Critical" lift operations.	<u>PRODUCT</u> - Lifting Equipment Certification Packages - Lifting Equipment Deviation Packages - Critical Lift Crane Database - Monitor Critical Lift Operations	<u>CUSTOMERS</u> - MSFC - International Space Station
<u>REQUIREMENT</u> NPG 8715.3 (Paragraph 6.11), NASA Safety Manual NSS/GO 1740.9 MPG 6430.1, Lifting Equipment and Operations MWI 6410.1, Packaging, Handling, and Moving Program Critical Hardware		<u>RISK OF NOT DOING</u> Risk of not involving Safety could lead to increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		
<u>PERFORMANCE GOAL:</u> All lifting equipment and operators are properly certified.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-25
<p><u>TASK / ACTIVITY</u></p> <p>Hazardous Operation and Test Safety Support - provide consultation services to address safety requirements for hazardous operations involving flight and test hardware. This includes: Review safety plans, contingency plans, test procedures, transportation procedures and support the development of these documents for MSFC in-house programs by writing safety sections.</p> <p>Monitor Hazardous Operations - This includes test operations.</p>	<p><u>PRODUCT</u></p> <ul style="list-style-type: none"> - Procedure comments - Notes reporting significant events. - Real-time support. 	<p><u>CUSTOMERS</u></p> <ul style="list-style-type: none"> - MSFC
<p><u>REQUIREMENT</u></p> <p>NPG 8715.3, NASA Safety Manual</p>		<p><u>RISK OF NOT DOING</u></p> <p>Risk of not involving Safety could lead to increased risk for mishap.</p>
<p><u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/</p> <p><u>PERFORMANCE GOAL:</u> No test or hazardous operations mishaps.</p>		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-26
<u>TASK / ACTIVITY</u> Hazardous Facility/Operations Inspections - conduct periodic inspections of hazardous areas and operations. Findings are tracked to ensure corrective action is taken.	<u>PRODUCT</u> - Inspection Reports - IHOP Database	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> NPG 8715.3, NASA Safety Manual MPG 8715.1, MSFC Safety, Health, and Environmental (SHE) Program		<u>RISK OF NOT DOING</u> Risk of not involving Safety could lead to increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Control or elimination of all identified hazards.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-27
<u>TASK / ACTIVITY</u> Safety In Contracts - regularly assess contractors performing potentially hazardous work for the Center. Also, evaluate contractor Safety and Health Plans.	<u>PRODUCT</u> - Monthly, Quarterly, Biannual, or Annual Performance Evaluation Reports - Metric charts reporting significant events. - SIC Database	<u>CUSTOMERS</u> - Contracting Officers - MSFC
<u>REQUIREMENT</u> NPG 8715.3 (Chapter 2), NASA Safety Manual NASA FAR Supplement SUBPART 1823.70 "Safety and Health"		<u>RISK OF NOT DOING</u> Risk of not involving Safety could lead to increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Low incidence rate for contractor mishaps.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-28
<u>TASK / ACTIVITY</u> Safety Policies & Procedures - review and support the development of NASA safety policies in support of NASA Headquarters. Also, develop Center wide instructions (MWI's) and organizational issuances (OI's) as required by NASA and Federal (OSHA) safety policies.	<u>PRODUCT</u> - Memorandums containing safety comments and suggestions. - MWI's - OI's - Employee Safety Handbook	<u>CUSTOMERS</u> - NASA Headquarters - Center Management - S&MA Director - MSFC
<u>REQUIREMENT</u> OSHA Part 1960 NPG 8715.3, NASA Safety Manual S&MA Charter		<u>RISK OF NOT DOING</u> Loss of discipline, consistency, and efficiency in implementing S&MA program processes. Also an increase of risk of quality and safety escapes. Violation of Federal law and increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		
<u>PERFORMANCE GOAL:</u> No discrepancies in S&MA documentation found during audits.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-29
<u>TASK / ACTIVITY</u> Special Projects (VPP) - prepare MSFC's Application Package for OSHA's Voluntary Protection Program (VPP). This effort will include supporting Tiger Teams and other center initiatives supporting VPP.	<u>PRODUCT</u> - VPP Application Package	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> Dan Goldin Initiative		<u>RISK OF NOT DOING</u>
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Achieve VPP Star Certification.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-30
<u>TASK / ACTIVITY</u> Safety Awareness - conduct several safety events each year, such as Safety Awareness Day and Fire Prevention Month. Also, maintain a home page has been developed and placed on the MSFC Web site, "Inside MSFC." Lessons Learned & Safety Alerts/Bulletins - promote safety by writing and distributing Safety Alerts and Bulletins. Also, provide safety consultants who respond to employee inquires and complaints. A telephone number (544-0046) has been specifically assigned to receive safety concerns. Special Team / Event Support - Industrial Safety Office supports several Center activities, (e.g., MSFC Picnic, Moon Buggy Race, Open House, etc.) by providing safety consultation to event coordinators.	<u>PRODUCT</u> - Safety Awareness Day - Fire Prevention Month promotion. - Safety Meeting Support (e.g., IS representative visit, safety videos, etc.) - Safety Alerts and Bulletins - MSFC IS Home Page	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> NPG 8715.3 (Paragraph 1.14), NASA Safety Manual NPG 8715.3 (Paragraph 1.16), NASA Safety Manual OSHA Part 1960 Subpart D Safety Awareness Day is a NASA Headquarters initiative supported by all NASA Centers.		<u>RISK OF NOT DOING</u> Increased risk for mishap. Violation of Federal law, increased employee discontent, and increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Conduct safety week activities, provide safety support to MSFC picnic, moon buggy race and open house.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-31
<u>TASK / ACTIVITY</u> Record Keeping and Reporting – be the Center’s focal point for all mishap records. Extensive files are kept, including: Mishap Investigation Board report and records, Independent Investigator report and records, Corrective Action Plans, Lessons Learned, and an electronic data base (IRIS). Annual mishap reports are sent to NASA Headquarters and OSHA. In addition, summary mishap trend reports are provided to Center management.	<u>PRODUCT</u> <ul style="list-style-type: none"> - Mishap Files - Mishap Trend Reports - Monthly Submittals to NASA Headquarters (IRIS) - Annual Mishap Summary Report to NASA Headquarters - Annual Mishap Report to OSHA - OSHA Form 101 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> - NASA Headquarters - OSHA - Center Management - S&MA Director - SHE Committees
<u>REQUIREMENT</u> OSHA Part 1960 Subpart I NMI 8621.1		<u>RISK OF NOT DOING</u> Violation of Federal law and increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Report statistics to safety, health, and environmental committee each month. Complete annual reports to HQ and OSMA.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-32
<u>TASK / ACTIVITY</u> Off-Site Safety Program Surveys - surveys the safety programs for off-site contractors (e.g., ARF, MAF, SSFL). Findings are data based and tracked to closure.	<u>PRODUCT</u> - Memorandums containing safety comments and suggestions. - HAZTRAK	<u>CUSTOMERS</u> - MSFC Program/Project Offices - Center Management - S&MA Director
<u>REQUIREMENT</u> OSHA Part 1960 NPG 8715.3 (Chapter 2), NASA Safety Manual NASA FAR Supplement SUBPART 1823.70 "Safety and Health"		<u>RISK OF NOT DOING</u> Violation of Federal law and increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Complete safety surveys annually.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-33
<u>TASK / ACTIVITY</u> Self-Assessment Survey - conduct an annual self-assessment to ensure MSFC Safety Program goals are being met. NASA Headquarters, Code QS, conducts a Process Verification (PV) survey every two to three years to independently confirm the Safety Program is working. The Industrial Safety Office supports the PV survey.	<u>PRODUCT</u> - Memorandums containing safety comments and suggestions. - Annual Self-Assessment Report - PV Response Memorandum	<u>CUSTOMERS</u> - Center Management - S&MA Director - HQ Code Q
<u>REQUIREMENT</u> OSHA Part 1960 NPG 8715.3 (Paragraph 1.9), NASA Safety Manual		<u>RISK OF NOT DOING</u> Violation of Federal law and increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> Conduct annual self-assessment.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Industrial Safety		MSFC LINE ITEM: QS10-34
<u>TASK / ACTIVITY</u> Safety Concerns and Reporting System (SCRS) - Industrial Safety promotes safety by responding to employee inquires and complaints. A telephone number (544-0046), e-mail address, and mail in pamphlet have been made available to specifically receive safety concerns and suggestions. Industrial Safety databases employee suggestions and close call reports. This way, actions are assigned to responsible organizations and track to closure.	<u>PRODUCT</u> - SCRS Web Page - Safety notes and response memorandums to inquires and complaints.	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> NPG 8715.1 (Paragraph 2.8), NASA Safety and Health Handbook Occupational Safety and Health Programs OSHA Part 1960 Part D MWI 8715.13, Safety Concerns Reporting System (SCRS)		<u>RISK OF NOT DOING</u> Violation of Federal law, increased employee discontent, and increased risk for mishap.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ - Trend the number of Close Calls and Safety Suggestions reported and closed.		
<u>PERFORMANCE GOAL:</u> Increase the number of Close Calls and Safety Suggestions reported and closed.		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Facilities Configuration Management		MSFC LINE ITEM: QS10-35
<u>TASK / ACTIVITY</u> Facilities Configuration Management - The Facilities Engineering Department (AD20) manages the facilities configuration management program.	<u>PRODUCT</u> - Drawing Database	<u>CUSTOMERS</u> - Facilities Office - Safety Office
<u>REQUIREMENT</u> NPG 8715.1 (Paragraph 8.3.7), NASA Safety Manual		<u>RISK OF NOT DOING</u> Increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Environmental Health		MSFC LINE ITEM: QS10-36
<u>TASK / ACTIVITY</u> Environmental Health Office (AD02) performs the following safety tasks: Work Area Health Evaluations - monitors and tests MSFC work areas (for noise, lead, indoor air quality, asbestos, toxic materials/chemicals and radiation) to insure the area is safe for MSFC employees. Confined Space Entry Program - develops and manages the confined space entry program. In addition, they issue confined space entry permits. Laboratory safety Inspections - inspects MSFC laboratories to ensure they comply with NASA and Federal safety requirements. Safety Training - The Environmental Health Office (AT01) develops and administers safety training for Confined Space Entry, Hazard Communications, Radiation, Respiratory Protection and Hearing Conservation.	<u>PRODUCT</u> - Test Reports - Confined Space Entry Permits - Inspection Reports - Training Course	<u>CUSTOMERS</u> - MSFC - Construction Contractors
<u>REQUIREMENT</u> 29 CFR 1910 29 CFR 1926 NPG 8715.3, NASA Safety Manual MPG 1800.1, Bloodborne Pathogens MPG 1810.1, MSFC Occupational Medicine MPG 1840.1, MSFC Confined Space Entries MPD 1840.1, MSFC Environmental Health Program MPD 1840.2, MSFC Hearing Conservation Program MPG 1840.2, MSFC Hazard Communication Program MPD 1840.3MPDMSFC Respiratory Protection Program MPG 1840.3, MSFC Hazardous Chemicals in Laboratories Protection Program MPD 1860.1, Laser Safety MPD 1860.2, Radiation Safety Program		<u>RISK OF NOT DOING</u> Increased risk for mishaps and fines for not complying with OSHA regulations.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Hazardous Chemicals/Materials		MSFC LINE ITEM: QS10-37
<u>TASK / ACTIVITY</u> Exposure to Hazardous Chemicals/Materials - The Environmental Engineering and Management Office (AD10) manages the MSFC Chemical Inventory Program and the Hazmat Response Team. In addition, they sponsor Hazmat training.	<u>PRODUCT</u> - Annual Chemical Inventory Report - Spill Clean Up	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> NPG 8715.3, NASA Safety Manual 29 CFR 1910 MPD 8870.1, MSFC Environmental Management Policy MPG 8870.1, MSFC Environmental Management Program		<u>RISK OF NOT DOING</u> Increased risk for mishaps and fines for not complying with OSHA or EPA regulations.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Aviation Safety		MSFC LINE ITEM: QS10-38
<u>TASK / ACTIVITY</u> Aviation Safety - The Logistics Office (AD40) oversees contractor activities related to MSFC aircraft operations. This includes assuring that NASA and FAA safety regulations are followed.	<u>PRODUCT</u> - Contract Evaluation Reports	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> MPG 8715.3 (Chapter 7), NASA Safety Manual MMI 6530.1, Aviation Accident Plan and Investigation MPG 6540.1, Management and Operation of MSFC Mission Management Aircraft		<u>RISK OF NOT DOING</u> Increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Safety Training Administration		MSFC LINE ITEM: QS10-39
<u>TASK / ACTIVITY</u> Safety Training Administration - The Employee Organizational Development Office (CD20) works with Industrial Safety to schedule safety courses and maintains the Civil Service employee training database	<u>PRODUCT</u> - Training Courses - AdminStar Database	<u>CUSTOMERS</u> - MSFC
<u>REQUIREMENT</u> NPG 8715.3 (Chapter 4), NASA Safety Manual MPG 3410.1, Training		<u>RISK OF NOT DOING</u> ISO 9000 non-conformance and increased potential for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/ <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department		
FUNCTION: Safety Training		MSFC LINE ITEM: QS10-40
<u>TASK / ACTIVITY</u> Test Area Safety Training - The Protective Services Department (AD50) administers safety training for Test Area Access, maintains a database of personnel who have completed this training, and issues backdrop badges.	<u>PRODUCT</u> - Training Course - Database	<u>CUSTOMERS</u> - MSFC - Construction Contractors
<u>REQUIREMENT</u> NPG 8715.3 (Chapter 4), NASA Safety Manual MPG 3410.1, Training		<u>RISK OF NOT DOING</u> Increased risk for mishaps.
<u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS10 Safety, Reliability, and Quality Assurance Department			
FUNCTION: Emergency Preparedness	MSFC LINE ITEM: QS10-41		
<p><u>TASK / ACTIVITY</u></p> <p>Emergency Preparedness - The Facilities Engineering Department (ADXX) manages MSFC's Emergency Plan. They maintain the Emergency Plan (MPG 1040.3), conduct drills, sponsor training, and operate the Emergency Operations Center.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 45%; vertical-align: top;"> <p><u>PRODUCT</u></p> <p>- MPG 1040.3</p> </td> <td style="width: 55%; vertical-align: top;"> <p><u>CUSTOMERS</u></p> <p>- MSFC</p> </td> </tr> </table>	<p><u>PRODUCT</u></p> <p>- MPG 1040.3</p>	<p><u>CUSTOMERS</u></p> <p>- MSFC</p>
<p><u>PRODUCT</u></p> <p>- MPG 1040.3</p>	<p><u>CUSTOMERS</u></p> <p>- MSFC</p>		
<p><u>REQUIREMENT</u></p> <p>NPG 8715.3 (Paragraph 1.13), NASA Safety Manual MPD 1040.3, MSFC Emergency Program MPG 1040.3, MSFC Emergency Plan</p>	<p><u>RISK OF NOT DOING</u></p> <p>Increased risk for mishaps.</p>		
<p><u>PERFORMANCE METRIC:</u> Radar applications http://msfcsma1.msfc.nasa.gov/dbwebs/apps/radar/</p> <p><u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications</p>			

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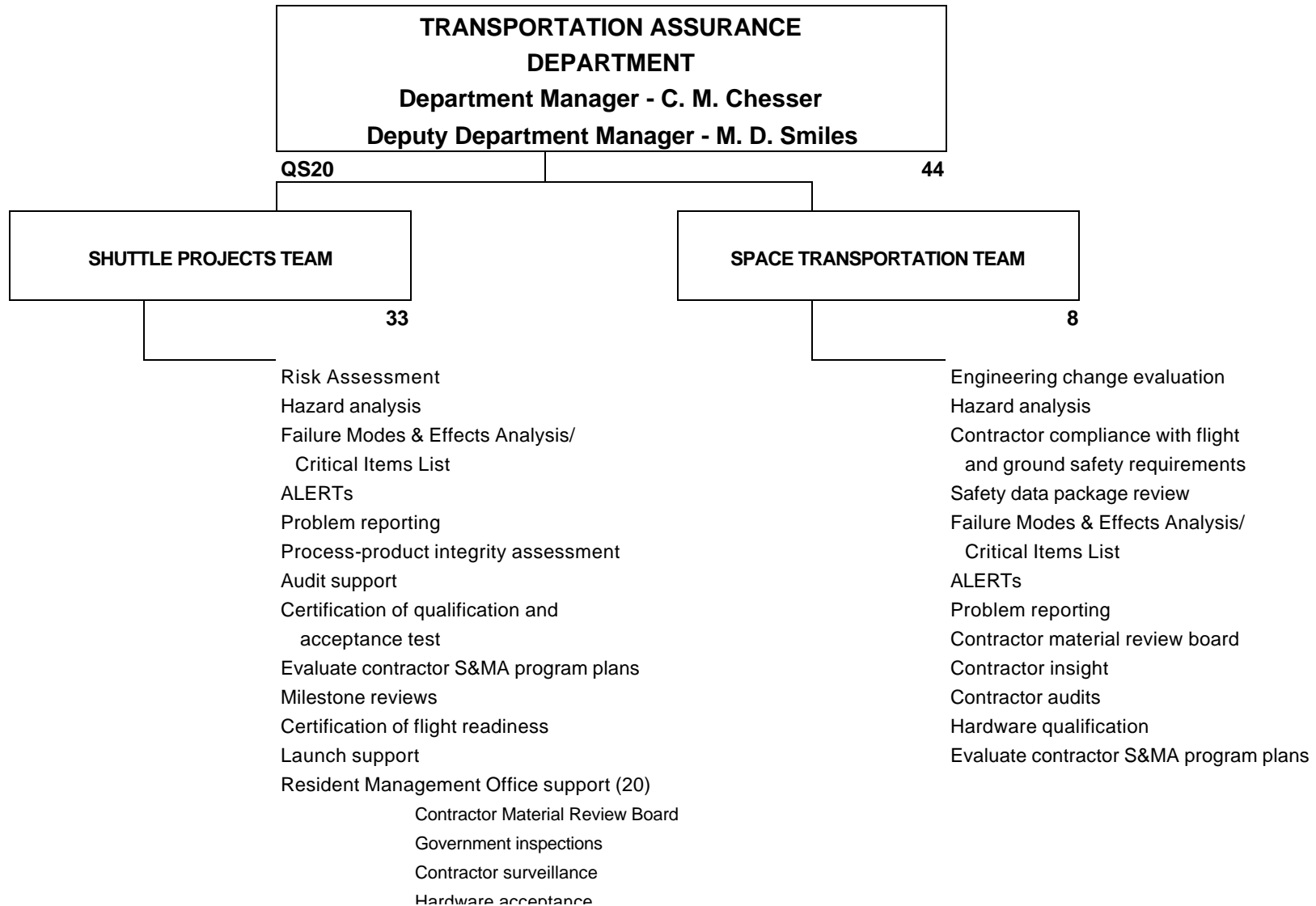
RESPONSIBLE OFFICE: AD23		
FUNCTION: Metrology/Calibration		MSFC LINE ITEM: QS10-42
<u>TASK / ACTIVITY</u> Provide Calibration and Repair Service of inspection, measuring, and test equipment. Maintain calibration records. Maintain MSFC procedure MPG 8730.5 <i>Control of Inspection, Measuring, and Test Equipment</i> to ensure compliance to ANSI/ASQC Q9001-1994.	<u>PRODUCT</u> High quality Calibration and Servicing of inspection, measuring, and test equipment under specified conditions which establish the relationship between values indicated by a measuring instrument or measuring system and the corresponding standard or known value derived from the standard. Calibrations are performed for Electrical/Electronic measuring devices, Dimensional measuring devices, and devices that quantify the physical sciences of pressure, mass, force, temperature, acoustics, flow, and displacement.	<u>CUSTOMERS</u> MSFC employees, MSFC contractors, other NASA Centers, academia and private businesses operating under a Space Act Agreement with NASA/MSFC who require high-quality, accurate measurements in the execution of their work.
<u>REQUIREMENT</u> NPD 8730.1 Metrology and Calibration ANSI/ASQC Q9001-1994		<u>RISK OF NOT DOING</u> Immediate loss of MSFC's ISO 9001 Registration. Degradation of safety and quality of MSFC's products and services with the potential loss of flight hardware and potential loss of human life.
<u>PERFORMANCE METRIC:</u> 10 working day turnaround, less than 3 items returned for rework per contract quarter, less than 2 delays of scheduled tests per contract quarter, incentive costs, and safety. <u>PERFORMANCE GOAL:</u> 25,000 calibrations per contract year.		

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RESPONSIBLE OFFICE: ED32 NDE Team		
FUNCTION: NDE Research, Development, and Inspection		MSFC LINE ITEM: QS10-43
<u>TASK / ACTIVITY</u> Develop NDE Inspection Methods for Advanced Materials and Components	<u>PRODUCT</u> Methods to locate and assess defects in aerospace components. Inspection of prototype and development articles. Technical consultation assistance to MSFC project offices. Review NDE methods and capabilities of MSFC contractors.	<u>CUSTOMERS</u> MSFC Transportation Directorate , MSFC Space Shuttle Projects Office, and MSFC Flight Projects Office
<u>REQUIREMENT</u> MPD 1280.1D, Mpg 8730.1B, MPG 8730.5B		<u>RISK OF NOT DOING</u> Degradation of safety and quality of MSFC products and services with the potential loss of human life and flight hardware.
<u>PERFORMANCE METRIC:</u> RADAR application <u>PERFORMANCE GOAL:</u> As detailed in RADAR application		

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MA OFFICE: QS20 Space Shuttle Team		
FUNCTION: S&MA Risk Assessment		MSFC LINE ITEM: SSP-01
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • Out of Family Resolution • Hazard Analysis • FMEA/CIL • ALERT Processing • Problem Assessment Center 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Adequate assessment of Space Shuttle risks 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • Space Shuttle Program • Space Shuttle Projects • SSRP • Code Q
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • NSTS 5300.4 (1D-2) • NSTS 08126 • NSTS 07700, Volume XI • NSTS 22254 • NSTS 22973 • NSTS 22206 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> • Lack of S&MA involvement, insight, and contribution to Space Shuttle risk assessments • Risk to flight safety
<u>PERFORMANCE METRIC:</u> RADAR applications reviewed monthly with QS01 management <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Shuttle Team		
FUNCTION: RMO Activities		MSFC LINE ITEM: SSP-02
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> Contractor Material Review Board (MRB) Critical Inspections Contractor Surveillance Hardware Acceptance Industrial Safety 	<u>PRODUCT</u> <ul style="list-style-type: none"> Insight and oversight of contractors' operations Nonconformance dispositions 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> Space Shuttle Program Space Shuttle Projects Code Q
<u>REQUIREMENT</u> <ul style="list-style-type: none"> NSTS 5300.4 (1D-2) NTST 5300.4 (2B-2) NSTS 07700, Volume XI 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> Introduction of nonconforming flight hardware Impact to safety of flight and vehicle reliability No insight into contractors' operations
<u>PERFORMANCE METRIC</u> <ul style="list-style-type: none"> GMIP reduction milestones RADAR applications reviewed monthly with QS01 management 		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Shuttle Team		
FUNCTION: Project Office Support		MSFC LINE ITEM: SSP-03
<u>TASK / ACTIVITY</u>	<u>PRODUCT</u>	<u>CUSTOMERS</u>
<ul style="list-style-type: none"> • Audits • Hardware Quality Certification • Establish S&MA Requirements • S&MA Support 	<ul style="list-style-type: none"> • S&MA expertise and guidance 	<ul style="list-style-type: none"> • Space Shuttle Projects
<u>REQUIREMENT</u>		<u>RISK OF NOT DOING</u>
<ul style="list-style-type: none"> • NSTS 07700, Volume XI 		<ul style="list-style-type: none"> • S&MA requirements, expectations, and services not supplied to project customers
<u>PERFORMANCE METRIC:</u> RADAR applications reviewed monthly with QS01 management		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Shuttle Team		
FUNCTION: CodeQ/Program Support		MSFC LINE ITEM: SSP-04
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • COFR/S&MA Preflight Support • Launch Support 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Independent review of all SSP technical issues to inform S&MA management of items which may impact Space Shuttle flight safety • PAR presentations and One-Page Summaries • S&MA COFR endorsements 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • Space Shuttle Program • Code Q
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • NSTS 5300.4 (2B-2) • NSTS 07700, Volumes III and IV • NSTS 22778 • NSTS 08117 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> • Lack of S&MA visibility to SSP issues during launch flow processing which could affect Space Shuttle flight safety
<u>PERFORMANCE METRIC:</u> <ul style="list-style-type: none"> • PAR evaluations by JSC S&MA and Code Q • RADAR applications reviewed monthly with QS01 management <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Project and Code Q Support/ S&MA Requirements Generation		MSFC LINE ITEM: STD - 4.1
<u>TASK / ACTIVITY</u>	<u>PRODUCT</u>	<u>CUSTOMERS</u>
<ul style="list-style-type: none"> • Acquisition Planning • Milestone Review • Support • Contractor Performance Evaluation • Indemnification 	<ul style="list-style-type: none"> • Project Plan • Quality Plan • S&MA Plan • Mission Success Data Package 	<ul style="list-style-type: none"> • Marshall Space Flight Center • Space Transportation Directorate • Space Station Program • Code Q
<u>REQUIREMENT</u>		<u>RISK OF NOT DOING</u>
NPG 7120.5A NPG 8700.XXX MPD 1280.1 MPG 7120.1 MPG 5100.1 MWI 7120.1 MWI 7120.2 MWI 7120.3 MWI 5100.1		<ul style="list-style-type: none"> • Inadequate S&MA requirements. • Contractor S&MA progress not satisfactory. • Duplication and inadequacies in S&MA activities. • NASA contractors not held accountable for S&MA performance • NASA liable for damages incurred on vehicle Projects
<u>PERFORMANCE METRIC:</u> RADAR application reviewed monthly with QS01 management		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Risk Management		MSFC LINE ITEM: STD - 4.2
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none">Fault Tree AnalysisProbabilistic Risk Assessment	<u>PRODUCT</u> <ul style="list-style-type: none">Fault Tree AnalysisProbabilistic Risk AssessmentRisk assessment trainers	<u>CUSTOMERS</u> <ul style="list-style-type: none">Marshall Space Flight CenterSpace Transportation DirectorateSpace Station ProgramCode Q
<u>REQUIREMENT</u> <ul style="list-style-type: none">NPG 7120.5AMWI 7120.6		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none">Lack of adequate risk assessment.Risk to flight safety.
<u>PERFORMANCE METRIC:</u> S&MA RADAR application		
<u>PERFORMANCE GOAL:</u> RADAR applications reviewed monthly with QS01 management.		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: System Safety		MSFC LINE ITEM: STD-4.3
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • Hazard Analysis • Software Safety • Safety Review Processes <ul style="list-style-type: none"> - ISS Safety Review Panel - SSP Payload Safety Review Panel - MSFC Payload Safety Readiness Review Board - ELV Safety Review Process - KSC Ground safety Review Board - Range Safety Review Process 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Acceptable analysis of risks • Program / design compliance with safety requirements 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • Marshall Space Flight Center • Space Transportation Directorate • International Space Station (ISS) • Space Shuttle Program (SSP) • ELV Projects • Code Q
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • NSTS 1700.7 • MWI 1700.1 • MWI 1700.2 • MWI 7120.6 • EWR 127-1 • JSC 26943 • NASA-STD-8719.8 • NASA-STD-8719.13A • SSP 30599 • SSP 50021 • NSTS/ISS 13830 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> • Inadequate identification, review and disposition of potential critical/catastrophic failures.
<u>PERFORMANCE METRIC:</u> RADAR applications reviewed monthly with QS01 management.		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Reliability and Maintainability		MSFC LINE ITEM: STD - 4.4
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • Failure Modes and Effects analysis/ Critical Items List (FMEA/CIL) • Problem Reporting • Limited Life Items List (LLIL) and analysis • ALERT Processing 	<u>PRODUCT</u> <ul style="list-style-type: none"> • FMEA/CIL • Problem report and disposition • LLIL • Proper out-of-family ALERT processing 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • Marshall Space Flight Center • Space Transportation Directorate • Space Shuttle Program • Space Station Program • Code Q
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • MPD 1280.1 • MWI 7120.6 • MWI 1280.5 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> • Failure modes and their mitigation will not be known, increasing risk of failure. • Operational problems not identified, reviewed and recurrence controls not in place for future flights. • Parts may not have enough operational life for mission. • ALERTS will not be reviewed for applicability to Project and resolved if out-of-family.
<u>PERFORMANCE METRIC:</u> RADAR applications reviewed monthly with QS01 management.		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Quality Assurance		MSFC LINE ITEM: STD - 4.5
TASK / ACTIVITY	PRODUCT	CUSTOMERS
<ul style="list-style-type: none">• Material Review Board (MRB)• Certification/Verification of hardware• Contractor Operations surveillance• NASA Engineering and Quality Audits (NEQA)• Software QA• Configuration Change Board (CCB) support• Delegated Government Agency Support• Hardware Acceptance	<ul style="list-style-type: none">• MRB dispositions• Certification of Compliance (COC)• NEQA findings• Design Change approval• Letter of Delegation (LOD) for Government Services• NASA Hardware Acceptance (ex: DD250)	<ul style="list-style-type: none">• NASA• Marshall Space Flight Center• Space Transportation Directorate• Space Station Program• Code Q
REQUIREMENT	RISK OF NOT DOING	
<ul style="list-style-type: none">• NPG 5300.4 (2B-3)• MPG 8730.3• MWI 8730.3• MWI 8050.1• MWI 5300.1• MWI 5330.1• MWI 5330.2• MWI 8040.2• MWI 8040.3• CQ 5330.1A	<ul style="list-style-type: none">• Inadequate review and disposition of MRB and CCB items.• Utilizing uncertified hardware.• Improper insight of contracted operations to assure adequacy.• Improperly controlled software leading to mission failure.• Hardware cannot be accepted for NASA.	
PERFORMANCE METRIC: RADAR applications reviewed monthly with QS01 management.		
PERFORMANCE GOAL: As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Industrial Safety		MSFC LINE ITEM: STD - 4.6
<u>TASK / ACTIVITY</u>	<u>PRODUCT</u>	<u>CUSTOMERS</u>
<ul style="list-style-type: none"> Mishap and Investigation Support Contingency Planning 	<ul style="list-style-type: none"> Mishap Investigation Report Contingency Plan 	<ul style="list-style-type: none"> Marshall Space Flight Center Space Transportation Directorate Space Station Program Code Q
<u>REQUIREMENT</u>		<u>RISK OF NOT DOING</u>
<ul style="list-style-type: none"> MWI 8621.1 		<ul style="list-style-type: none"> Improper investigation of mishaps and inadequate recurrence controls for similar future operations. Major mishaps will not be properly controlled and evaluated in an expedient manner.
<u>PERFORMANCE METRIC:</u> RADAR applications reviewed monthly with QS01 management.		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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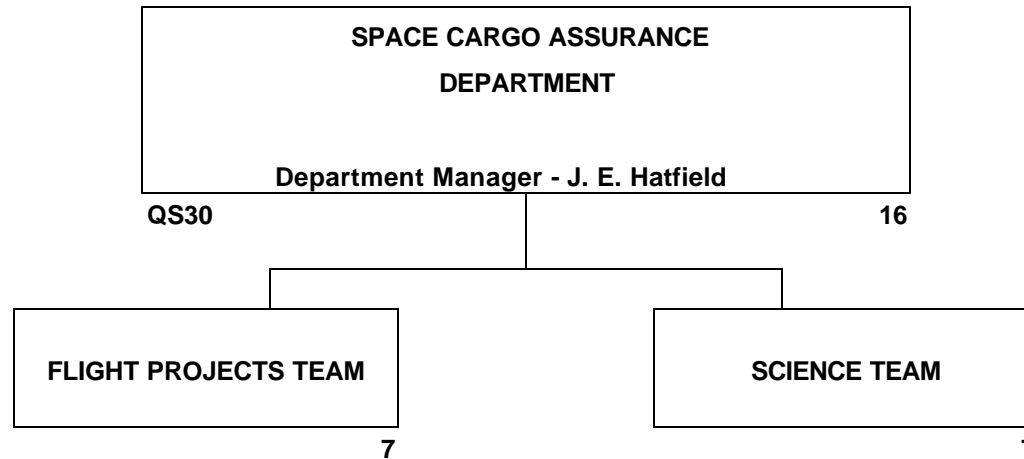
S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Processing of Hardware at MSFC		MSFC LINE ITEM: STD - 4.7
TASK / ACTIVITY <ul style="list-style-type: none"> • Hardware Procurements • In-house fabrication, assembly and test 	PRODUCT <ul style="list-style-type: none"> • S&MA procurement requirements • Hardware for NASA Projects 	CUSTOMERS <ul style="list-style-type: none"> • Marshall Space Flight Center • Space Transportation Directorate • Space Station Program • Code Q
REQUIREMENT <ul style="list-style-type: none"> • MPG 5000.1 • MWI 5100.1 		RISK OF NOT DOING <ul style="list-style-type: none"> • Hardware made at MSFC will not meet MSFC requirements.
<u>PERFORMANCE METRIC:</u> RADAR applications reviewed monthly with QS01 management.		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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S&MA OFFICE: QS20 Space Transportation Team		
FUNCTION: Code Q/Program Support		MSFC LINE ITEM: STD - 4.8
<u>TASK / ACTIVITY</u>	<u>PRODUCT</u>	<u>CUSTOMERS</u>
<ul style="list-style-type: none"> • SSP Prelaunch Assessment Review (PAR) support • SSP Technical Issues Board (TIB) support • NASA Safety Reporting System (NSRS) support 	<ul style="list-style-type: none"> • PAR presentations and one-page summaries • TIB presentations • NSRS evaluation reports 	<ul style="list-style-type: none"> • Marshall Space Flight Center • Space Transportation Directorate • Space Station Program • Code Q
<u>REQUIREMENT</u>		<u>RISK OF NOT DOING</u>
<ul style="list-style-type: none"> • NSTS 22778 • 3/92 MOU between S&MA and S&E • MWI 1700.3 		<ul style="list-style-type: none"> • Increased flight risk due to improper S&MA review of technical issues prior to flight. • Center Director has no S&MA input to flight technical issues. • NSRS items are improperly evaluated which can lead to mission risk.
<u>PERFORMANCE METRIC:</u> <ul style="list-style-type: none"> • RADAR applications reviewed monthly with QS01 management. • Customer feedback of all PAR sessions at the conclusion of the STS flight process. <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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Coordinate S&MA disciplines

**Requirements identification
and implementation**

Milestone reviews

**Evaluate changes, waivers, deviations
and ALERTS**

Flight safety requirements

Hazard analysis

Design review

Launch and mission support

Failure investigation

Risk Management

Audits and surveys

Safety review panels

Problem reporting

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RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM		
FUNCTION: PROJECT ASSURANCE		MSFC LINE ITEM: QS30-FP-01
<u>TASK/ACTIVITY</u> Coordination and integration of all MSFC Safety & Mission Assurance (S&MA) activities for Flight Project Directorate (FPD) Programs.	<u>PRODUCT</u> <ul style="list-style-type: none"> • S&MA point of contact for FPD programs • Coordination of S&MA disciplines for FPD programs including Industrial Safety, System Safety, Reliability, Maintainability, Quality Engineering and Inspection • Overall assessment of FPD S&MA programs • Maintain communications and interfaces with HQ, MSFC Center, FPD, and S&MA managers • Technical guidance to Contractor, MSFC, and DCMC personnel • Identification and implementation of S&MA requirements for FPD programs, including statements of work and data requirements • Lead/chair S&MA portion of Milestone Reviews • Evaluate ECPs, Waivers, Deviations, and Alerts • Risk Management consultation • Development of Safety, Reliability, Maintainability, and Quality Plans for in-house projects • Assessment of contractor-developed Safety, Reliability, Maintainability and Quality Plans • ISO procedure development and reviews • Report program status to HQ, MSFC, and S&MA Management and at Milestone Reviews • Action Item responses • Contractor and Mission Services Performance Evaluations • Identification and coordination of S&MA Resource Requirements 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • HQ • MSFC Center Director • S&MA Director • FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • MSFC Management System Procedures • NSTS 1700.7B • NSTS 13830 • KHB 1700.7 • SSP 50021 • SSP 41000 • NPG 7120.5 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> • Impact to Safety of FPD programs personnel and hardware • Impact to mission success of FPD programs
<u>PERFORMANCE METRIC:</u> S&MA RADAR applications <u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM		
FUNCTION: SYSTEM SAFETY		MSFC LINE ITEM: QS30-FP-02
<u>TASK/ACTIVITY</u> <ul style="list-style-type: none"> Identify Flight/Ground Safety Requirements for FPD programs Develop Hazard Analyses and Safety Assessments Review and approve Hazard Analyses and Safety Review Data Packages Safety Review participation Design Review participation Launch and mission support Failure investigation Provide guidance and implementation of software safety principles and practices 	<u>PRODUCT</u> <ul style="list-style-type: none"> Inputs to SOWs, DRs, Specifications, Plans, and Procedures Safety Plans for MSFC In-House programs Flight and Ground Safety Compliance Data Packages (SCDPs) for MSFC In-house FPD programs PSRRB Presentations Safety Review Panel Presentations Safety Verification Tracking Evaluation and approval of Contractor-developed Safety Plans and SCDPs Milestone Review Safety RIDs Response to Milestone Review RIDs and comments to Safety deliverables Evaluation of ECPs, Waivers, and Deviations Safety approval of operational procedures Fault Tree Analyses 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> HQ MSFC Center Director S&MA Director FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> MSFC Management System Procedures NSTS 1700.7B NSTS 13830 KHB 1700.7 SSP 30599 SSP 50021 SSP 50038 SSP 41000 NASA-STD-1819.13A 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> Impact to Safety of FPD programs personnel, hardware, and facilities
<u>PERFORMANCE METRIC:</u> "Hazards" RADAR applications <u>PERFORMANCE GOAL:</u> As detailed in the RADAR applications		

RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM	
FUNCTION: RELIABILITY ENGINEERING	MSFC LINE ITEM: QS30-FP-03

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<u>TASK/ACTIVITY</u> <ul style="list-style-type: none"> Identify Reliability Requirements for FPD programs FMEA/CIL Development Review and approve FMEA/CILs Design Review participation Reliability Assessment Failure investigation PRACA ALERT processing Test support 	<u>PRODUCT</u> <ul style="list-style-type: none"> Input to SOWs, DRs, Specifications, Plans, and Procedures Reliability Plans for MSFC In-house programs Develop FMEA/CIL for MSFC In-house FPD programs Evaluation and approval of Contractor-developed Reliability Plans, Reliability Analyses and FMEA/CILs Reliability Predictions Limited Life Items list Trade study development and assessments Milestone Review Reliability RIDs Response to Milestone Review RIDs and comments to Reliability deliverables Evaluation of ECPs, Waivers, and Deviations Problem Report closures ALERT closures Inputs to Test Plans 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> HQ MSFC Center Director S&MA Director FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> MSFC Management System Procedures SSP 30223 SSP 30234 SSP 41000 	<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> Impact to mission success of FPD programs 	
<u>PERFORMANCE METRIC:</u> <ul style="list-style-type: none"> “Problems” RADAR applications “ALERTs” RADAR applications “FMEA/CIL” RADAR applications “Limited Life” RADAR applications <u>PERFORMANCE GOAL:</u> As detailed in each respective RADAR applications		

RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM		
FUNCTION: MAINTAINABILITY ENGINEERING	MSFC LINE ITEM: QS30-FP-04	

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<u>TASK/ACTIVITY</u> <ul style="list-style-type: none"> Identify Maintainability Requirements for FPD programs Maintainability Assessment Failure investigation Design Review participation Test support 	<u>PRODUCT</u> <ul style="list-style-type: none"> Input to SOWs, DRs, Specifications, Plans, and Procedures Maintainability Plans for MSFC In-house programs Develop Maintainability Analyses for MSFC In-house FPD programs Evaluation and approval of Contractor-developed Maintainability Plans and Maintainability Analyses Maintainability inputs to FMEA/CIL Evaluation of PR's for impact to Maintainability Evaluation of Limited Life Items for impact to Maintainability Milestone Review Maintainability RIDs Response to Milestone Review RIDs and comments to Maintainability deliverables Evaluation of ECPs, Waivers, and Deviations Develop Maintainability Test Plans for MSFC In-house FPD programs Evaluate and approve Contractor prepared Maintainability Test Plans Participate in Maintainability Testing 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> HQ MSFC Center Director S&MA Director FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> MSFC Management System Procedures SSP 30234 SSP 41000 SSP 50021 	<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> Impact to hardware availability and mission success of FPD programs 	
<u>PERFORMANCE METRIC:</u> <ul style="list-style-type: none"> "Problems" RADAR application "Limited Life" RADAR application <u>PERFORMANCE GOAL:</u> As detailed in each respective RADAR applications		

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RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM		
FUNCTION: QUALITY ENGINEERING		MSFC LINE ITEM: QS30-FP-05
<u>TASK/ACTIVITY</u> <ul style="list-style-type: none"> Identify Quality Requirements for FPD programs Assess technical documentation (drawings, procurement requests, procedures, COCs, ECPs, etc.) Design Review participation Failure investigation Quality Delegations Audits and surveys Assess qualification and verification Certification of qualification, flight worthiness, flight readiness 	<u>PRODUCT</u> <ul style="list-style-type: none"> Inputs to SOWs, DRs, Specifications, Plans, and Procedures Quality Plans for MSFC In-house programs Review and approval of contractor-developed Quality Plans Procurement QA requirements Receiving Inspection requirements and instructions MIPs NCR and PR evaluations Procedure review and approvals Milestone Review Quality RIDs Response to Milestone Review RIDs and comments to Quality deliverables Letters of Delegation to DCMC and other NASA Centers Evaluation of ECPs, Waivers, and Deviations Acceptance Data Package review and approval COQs, COFWs, COFRs Audit and survey findings, corrective actions, and closures 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> HQ MSFC Center Director S&MA Director FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> MSFC Management System Procedures ISO 9000 Standard SSP 41000 SSP 41173 SSP 50108 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> Impact to Safety of FPD programs personnel and hardware Impact to mission success of FPD programs
<u>PERFORMANCE METRIC:</u> <ul style="list-style-type: none"> “Nonconformance” RADAR application “Surveillance” RADAR application “NEQA” RADAR application “Certification” RADAR application “Waivers/Deviations” RADAR application <u>PERFORMANCE GOAL:</u> As detailed in each respective RADAR applications		

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RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM		
FUNCTION: RISK MANAGEMENT		MSFC LINE ITEM: QS30-FP-06
<u>TASK/ACTIVITY</u> <ul style="list-style-type: none"> Identification, evaluation, and tracking of S&MA risk items 	<u>PRODUCT</u> <ul style="list-style-type: none"> Inputs to Program Plans and Risk Management Plans S&MA Risk Items List Evaluations of Program identified risks and mitigation plans 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> HQ MSFC Center Director S&MA Director FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> NPG 7120.5 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> Impact to Safety of FPD programs personnel and hardware Impact to mission success of FPD programs
<u>PERFORMANCE METRIC:</u> Percentage of FPD programs that have a Risk Management Plan <u>PERFORMANCE GOAL:</u> All FPD programs will have a Risk Management Plan		

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RESPONSIBLE OFFICE: QS30 FLIGHT PROJECTS TEAM		
FUNCTION: MSFC Management System Audits		MSFC LINE ITEM: QS30-FP-07
<u>TASK/ACTIVITY</u> <ul style="list-style-type: none"> • Participation as an Auditor/Lead Auditor in Internal Audit activities • Support to projects in preparing for internal and external audits • Participation in internal and external audits as Auditee/Escort 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Observations and Nonconformances 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • HQ • MSFC Center Director • S&MA Director • FPD Managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • MSFC Management System Instructions 		<u>RISK OF NOT DOING</u> <ul style="list-style-type: none"> • Unidentified nonconformances with MSFC Management System
<u>PERFORMANCE METRIC:</u> S&MA RADAR application		
<u>PERFORMANCE GOAL:</u> As detailed in S&MA RADAR applications		

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RESPONSIBLE OFFICE: QS30 Science Directorate Assurance Team (SDAT)		
FUNCTION: Project Assurance		MSFC LINE ITEM: QS30-SDAT-01
<u>TASK / ACTIVITY</u> Coordination and integration of all MSFC Safety & Mission Assurance activities for Science Directorate (SD) flight projects.	<u>PRODUCT</u> <ul style="list-style-type: none"> • Single S&MA point of contact for all Science Directorate flight projects. • Coordination of all necessary S&MA disciplines on SD projects. S&MA disciplines include Industrial Safety, System Safety Engineering, Reliability Engineering, Maintainability Engineering, Quality Engineering (including software), Quality Inspection, and Risk Management. • Identification of S&MA resource requirements (e.g., civil service and support contractor manpower) for SD flight projects. • Identification of applicable safety, reliability, maintainability, and QA requirements. Integration of these requirements in Project Plans, CEI specifications, etc. • S&MA evaluations / assessments of engineering change requests, waivers, deviations, ALERT impacts, etc. • Coordination of Flight and Ground Phased Safety Review activities • Risk Management consultations • Board member evaluations at Design Review Boards, CCB's, Pre-Ship Reviews, Acceptance Reviews, Flight Readiness Reviews, etc. • S&MA Plans (e.g., Safety Plans, Reliability Plans, Maintainability Plans, Quality Plans). • Development of S&MA Statements of Work (SOW) and Data Requirements (DRD's) • Contractor (prime and S&MA) performance evaluations. • Action Item responses • S&MA status reports at Design Review Boards, Pre-ship Reviews, FRR's, PAR's, etc. • ISO 9000 consultations 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • HQ AA, Code Q • MSFC Center Director • MSFC S&MA Director • Science Directorate program and project managers
<u>REQUIREMENTS</u> <ul style="list-style-type: none"> • NSTS 1700.7 • NSTS 13830 • KHB 1700.7 • NSTS 07700, Vol. IX • SSP 50431 		<u>RISK OF NOT DOING</u> Increased risk of safety incidents or mission failure.
<u>PERFORMANCE METRIC:</u> S&MA RADAR application <u>PERFORMANCE GOAL:</u> As detailed in RADAR application		

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RESPONSIBLE OFFICE: QS30 Science Directorate Assurance Team (SDAT)		
FUNCTION: System Safety Engineering		MSFC LINE ITEM: QS30-SDAT-02
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • Identification of applicable flight safety requirements for SD flight projects. • Hazard Analyses / Safety Assessments • Design Review participation • Safety Review participation • Anomaly investigation participation • Launch / mission support 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Input into Project Plans, system requirements documents (e.g., SRD's, CEI's, etc.), contractor SOW's and DRD's, etc. • System Safety Plans for in-house projects • Develop Flight and Ground Phase 0/I, II, and III Safety Compliance Data Packages (SCDP's) for in-house projects. • Evaluate and approve Flight and Ground Phase 0/I, II, and III Safety Compliance Data Packages (SCDP's) developed by external contractors. • Missile Systems Range Safety packages for ELV payloads. • Safety verification requirements definition • Safety Verification Tracking Logs (SVTL's) • Assessments / review comments of contractor-prepared safety packages. • Milestone Review support and System Safety RID generation • Safety evaluations of engineering change requests, waivers, deviations, problem reports, anomaly investigations and associated corrective / preventative actions • Presentation material for MSFC, JSC and KSC Safety Review Panels. 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • HQ AA, Code Q • MSFC Center Director • MSFC S&MA Director • Science Directorate program and project managers
<u>REQUIREMENTS</u> <ul style="list-style-type: none"> • NSTS 1700.7 • NSTS 13830 • KHB 1700.7 • NSTS 07700, Vol. IX 		<u>RISK OF NOT DOING</u> Increased risk of safety incidents
<u>PERFORMANCE METRIC:</u> S&MA RADAR application		
<u>PERFORMANCE GOAL:</u> As detailed in RADAR application		

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RESPONSIBLE OFFICE: QS30 Science Directorate Assurance Team (SDAT)		
FUNCTION: Reliability Engineering		MSFC LINE ITEM: QS3-SDAT-03
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • Coordination and identification of reliability requirements for SD flight projects. • Reliability Assessments • FMEA / CIL • Design review support • Failure/anomaly investigation participation • ALERT processing • PRACA 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Input into project plans, system requirements documents (e.g., SRD's, CEI's, etc.), contractor SOW's and DRD's, etc. • Reliability Plans for in-house projects. • FMEA / CIL development for in-house activities • Evaluation and approval of external contractor-developed FMEA / CIL • Limited Life Items list • Reliability predictions (i.e. quantitative) • Reliability verification requirements • Assessments / review comments for contractor-prepared reliability assessments. • Milestone Review support and Reliability RID generation • Reliability evaluations of engineering change requests, waivers, deviations, problem reports, anomaly investigations and associated corrective / preventative actions • Problem Report closures • ALERT closures 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • HQ AA, Code Q • MSFC Center Director • MSFC S&MA Director • Science Directorate program and project managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • MSFC QMS Directives • SSP 50431 		<u>RISK OF NOT DOING</u> Increased risk of a safety incident or mission failure.
<u>PERFORMANCE METRIC:</u> S&MA RADAR application <u>PERFORMANCE GOAL:</u> As detailed in RADAR application		

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RESPONSIBLE OFFICE: QS30 Science Directorate Assurance Team (SDAT)		
FUNCTION: Maintainability Engineering		MSFC LINE ITEM: QS30-SDAT-04
<u>TASK/ACTIVITY</u>	<u>PRODUCT</u>	<u>CUSTOMERS</u>
<ul style="list-style-type: none"> • Coordination and identification of maintainability requirements for SD flight projects. • Maintainability assessment • Failure investigation • Design milestone review participation • Test support 	<ul style="list-style-type: none"> • Input to Sow's, DR's, specifications, plans, and procedures • Maintainability Plans for MSFC in-house programs and contractor programs • Develop Maintainability analyses for MSFC in-house SD projects • Evaluation and approval of contractor-prepared Maintainability analyses • Maintainability inputs to FMEA / CIL • Evaluation of Problem Reports for impact to Maintainability • Evaluation of Limited Life Items for impact to Maintainability • Milestone Review support and Maintainability RID generation • Maintainability evaluation of engineering change requests, waivers, and deviations, anomaly investigations and associated corrective / preventative actions • Develop Maintainability Test Plans for MSFC in-house SD projects • Evaluate and approve contractor-prepared Maintainability Test Plans • Participate in Maintainability testing 	<ul style="list-style-type: none"> • HQ AA, Code Q • MSFC Center Director • MSFC S&MA Director • Science Directorate program and project managers
<u>REQUIREMENT</u>		<u>RISK OF NOT DOING</u>
<ul style="list-style-type: none"> • MSFC QMS Procedures • SSP 30234 • SSP 50431 		Increased risk of mission failure.
<u>PERFORMANCE METRIC:</u>		
S&MA RADAR application		
<u>PERFORMANCE GOAL:</u>		
As detailed in RADAR application		

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RESPONSIBLE OFFICE: QS30 Science Directorate Assurance Team (SDAT)		
FUNCTION: Quality Engineering		MSFC LINE ITEM: QS30-SDAT-05
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> • Coordination and identification of quality requirements for SD flight projects. • Quality Engineering Assessments of technical documentation (e.g., drawings, EPL's, test procedures, etc.) • Design review support • Anomaly investigation participation • Management of delegated Agencies (e.g., DCMC) • Audits / surveys • Assessments of verification / qualification programs for adequacy • Development of Certificates of Qualification on required projects 	<u>PRODUCT</u> <ul style="list-style-type: none"> • Input into Project Plans, system requirements documents (e.g., SRD's, CEI's, etc.), contractor SOW's and • Quality Plans (including software) • Procurement Quality requirements • MSFC-STD-555 inspectability review comments or concurrence • Procedure comments / concurrence • Inspection instructions • Mandatory inspection points • Nonconformance / Problem Report assessments • Milestone Review support and Quality Engineering RID generation • Letter's of Delegation • Audit / survey findings / recommendations • Action item responses • Evaluations of engineering change requests, waivers, deviations, anomaly investigation findings / recommendations • Verification comments / recommendations • COQ's for applicable projects 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> • HQ AA, Code Q • MSFC Center Director • MSFC S&MA Director • Science Directorate program and project managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> • ISO 9000 Standard • MSFC QMS Directives • SSP 50431 		<u>RISK OF NOT DOING</u> Increased risk of safety incident or mission failure.
<u>PERFORMANCE METRIC:</u> S&MA RADAR application		
<u>PERFORMANCE GOAL:</u> As detailed in RADAR application		

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RESPONSIBLE OFFICE: QS30 Science Directorate Assurance Team (SDAT)		
FUNCTION: Risk Management Assurance		MSFC LINE ITEM: QS30-SDAT-06
<u>TASK / ACTIVITY</u> <ul style="list-style-type: none"> Risk Management consultation Identification and assessment of S&MA risk items (e.g., safety, reliability and quality assurance risk issues) 	<u>PRODUCT</u> <ul style="list-style-type: none"> Inputs into Project Plans and Risk Management Plans Documented S&MA risk items Assessments of project risk characterizations and abatement plans 	<u>CUSTOMERS</u> <ul style="list-style-type: none"> HQ AA, Code Q MSFC Center Director MSFC S&MA Director Science Directorate program and project managers
<u>REQUIREMENT</u> <ul style="list-style-type: none"> NPG 7120.5 MSFC QMS Directives SSP 50431 		<u>RISK OF NOT DOING</u> <p>Increased risk of a safety incident of mission failure.</p>
<u>PERFORMANCE METRIC:</u> S&MA RADAR application <u>PERFORMANCE GOAL:</u> As detailed in RADAR application		

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